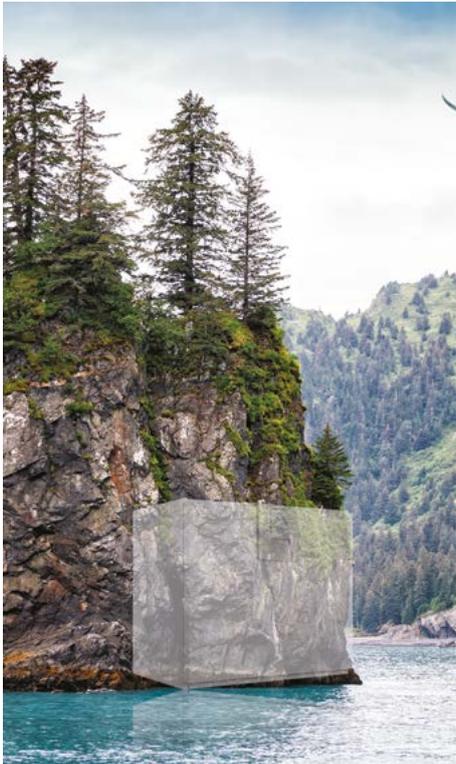


VENTILATION WITH HEAT RECOVERY

RESIDENTIAL APPLICATION





CLEAN AIR THINKING



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



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

DUPLEXVENT 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.

DUPLEXVENT 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.

DUPLEXVENT 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.



airflow.com



DUPLEXVENT ADROIT PRO RANGE

A range of internet enabled residential Mechanical Ventilation with Heat Recovery units, offering high performance and quality. Available with a digital control system, the user is able to totally customise their ventilation to suit their needs and improve their indoor air quality. With over 90% thermal efficiency, low noise and unrivalled user controls, Adroit Pro is the perfect unit for those looking for a high-end MVHR system.

Unohab

Single Room Heat Recovery –
Up to 45 m³/h air volume

A+

When installed with an additional room sensor



KEY FEATURES

- Flow rate up to 45 m³/h
- Up to 88% heat recovery efficiency
- Economical to operate with silent EC axial fan technology
- Easily installed with basic tools
- Optional sound insulation elements to reduce the sound operation by maximum of 8 dB from the total sound pressure level
- 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
- 2 year warranty*

Unohab - Single Room Heat Recovery

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). For the sake of 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.

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

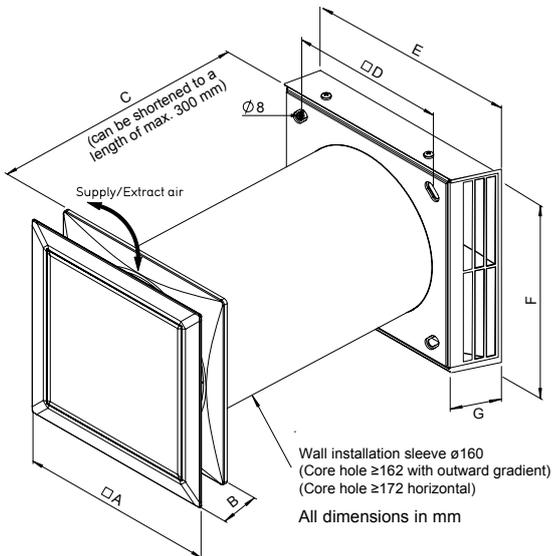


TECHNICAL DATA

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				
Electrical connection according to wiring diagram no.	SD - 3 / SD - 4				
Weight [kg]	4.65				
Working range temperature	-12°C up to +40°C				
Dimensions [mm]	204 x 234 x 590				
Part number	90001177				

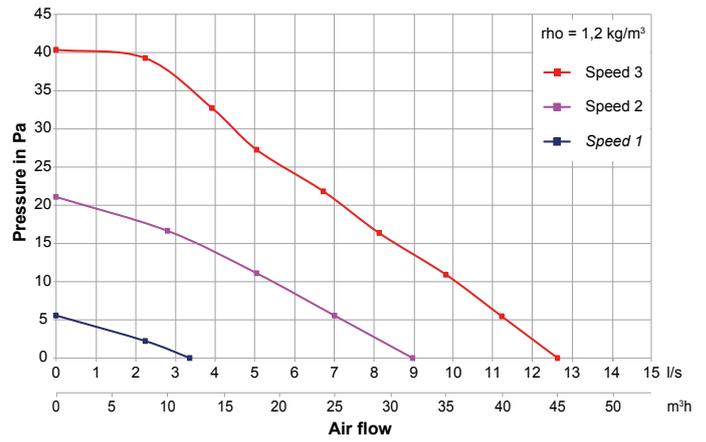
*Default fan speeds
 **Fan speeds, which can be selected on the Duplexvent UnoHab software (only three fan speeds can be selected at the same time).

DIMENSIONS



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

PERFORMANCE

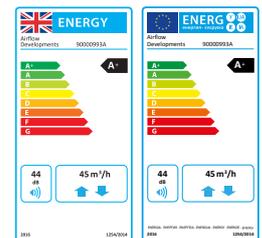


ACCESSORIES

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



Unohab

Single Room Heat Recovery –
Up to 45 m³/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.

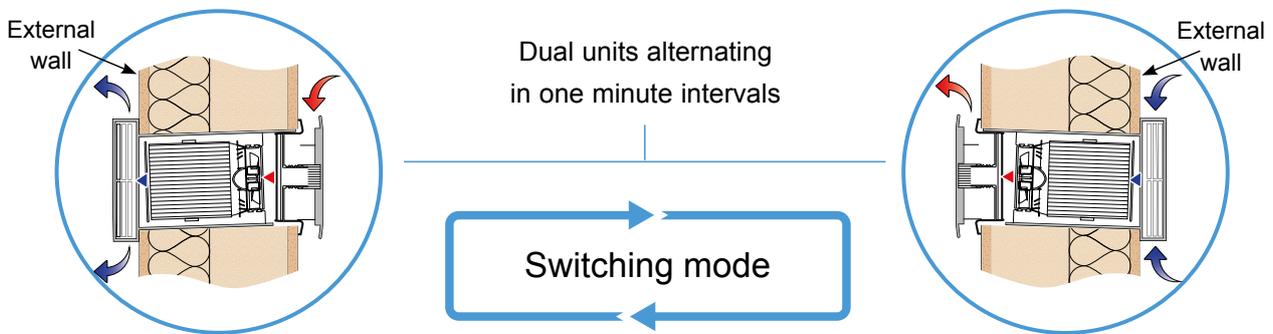
WORKING PRINCIPLE

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

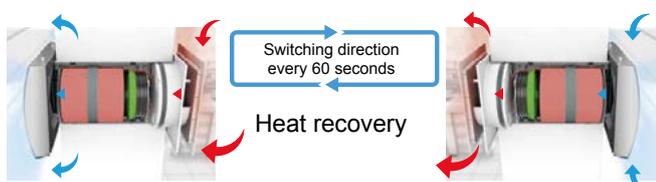
During the supply air phase, the fresh outside air absorbs the heat from the ceramic accumulator and this pre-heated air flows into the room.

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.



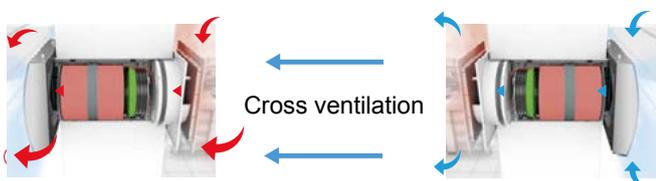
Mode 1
Green LED



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.

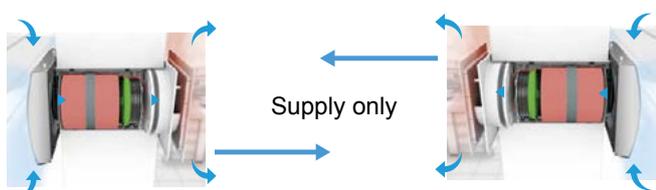
Mode 2
Yellow LED



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.

Duplexvent DV65 Entro-V

Up to 242 m³/h air volume @100 Pa



KEY FEATURES

- Domestic and residential heat recovery ventilation
- Thermal efficiency capabilities of 85% and above
- 2x ISO ePM Coarse 55% (G4) filters as standard with an extra supply air filter location for an optional ISO ePM1 55% (F7) - ISO 16890 compliant
- Compact design
- Suitable for vertical mounting (kits included as standard)
- Easy filter change with no tools needed
- Choice of spigot locations (top entry as standard)
- Suitable for left- and right-hand configurations
- Complies with Building Regulations
- SAP eligible
- 2 year warranty+

A+

Based on average climate with a local demand control

Duplexvent DV65 Entro-V

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 55% (F7) pollen filter which provides additional protection against invisible, harmful particles creating an ultra-hygienic environment. ISO ePM Coarse 55% (G4) and ISO ePM1 55% (F7) can be used in conjunction with each other on supply air side.

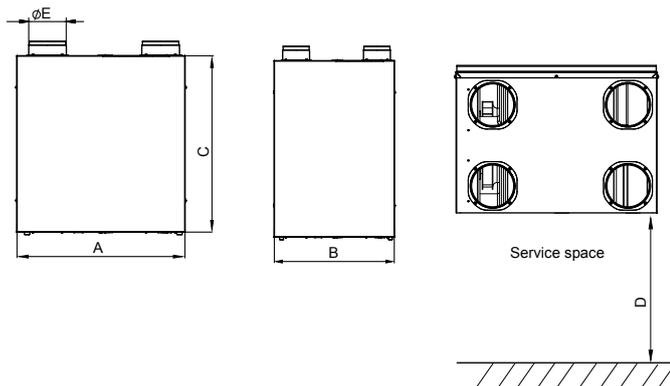


TECHNICAL DATA

Specification	DV65 Entro-V
Air flow m ³ /h / l/s @100Pa	242 / 67.2
For dwelling floor area up to (m ²)	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 ³ /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 55% (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

*Complies with ISO 16890

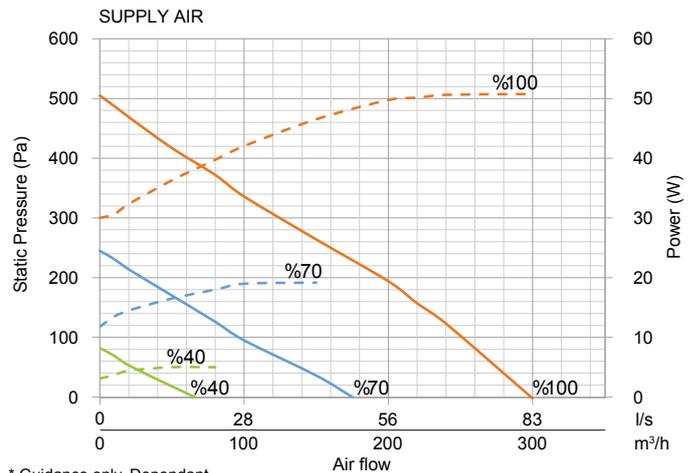
DIMENSIONS



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

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

PERFORMANCE



* Guidance only. Dependant 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

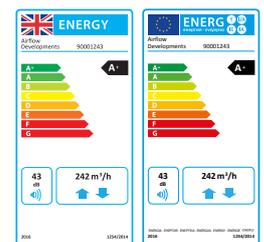
ACCESSORIES

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 55% (F7)	90001326
DV65 Entro-V heater 0,5 kW	90001335
DV65 Entro-V heater 1 kW	90001336
DV65 Entro-V heater 1,5 kW	90001337

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 Label 90001243

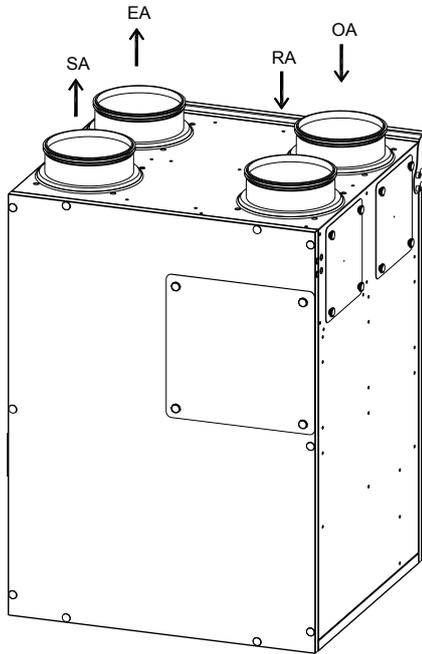


Duplexvent DV65 Entro-V

Up to 242 m³/h air volume @100 Pa

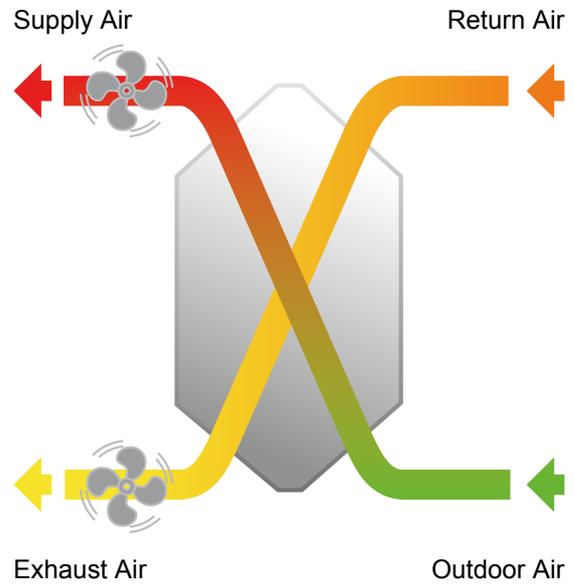
UNIT CONFIGURATION

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



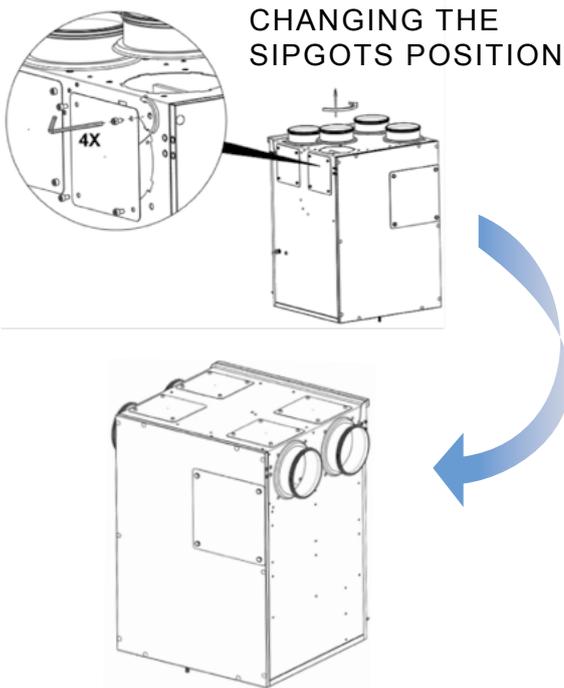
OA = Outside Air
SA = Supply Air
RA = Return Air
EA = Exhaust Air

HEAT EXCHANGER DIAGRAM



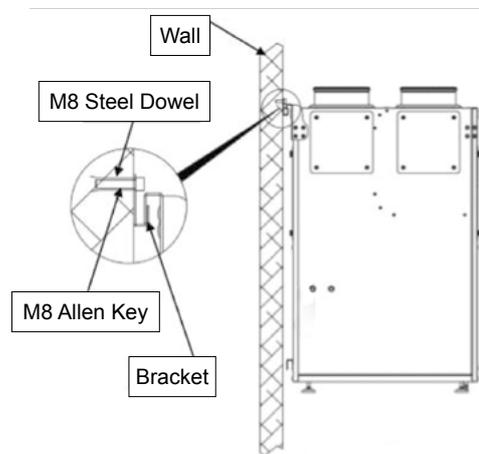
INSTALLATION

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.

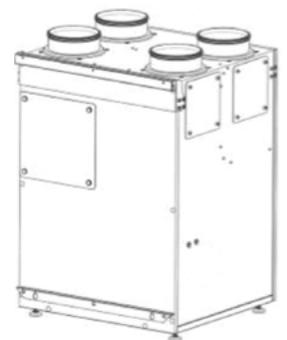


CHANGING THE
SIPGOTS POSITION

INSTALLATION
ON THE WALL



INSTALLATION
ON THE FLOOR



SOUND DATA

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

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



Basic controller user-interface

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

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



Duplexvent DV82 Entro-V

Up to 295 m³/h air volume @100 Pa



KEY FEATURES

- Domestic and residential heat recovery ventilation
- Thermal efficiency capabilities of 85% and above
- 2x ISO ePM Coarse 55% (G4) filters as standard with an extra supply air filter location for an optional ISO ePM1 55% (F7) - ISO 16890 compliant
- Compact design
- Suitable for vertical mounting (kits included as standard)
- Easy filter change with no tools needed
- Choice of spigot locations (top entry as standard)
- Suitable for left- and right-hand configurations
- Complies with Building Regulations
- SAP eligible
- 2 year warranty+

Duplexvent DV82 Entro-V

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. 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 55% (F7) pollen filter which provides additional protection against invisible, harmful particles creating an ultra-hygienic environment. ISO ePM Coarse 55% (G4) and ISO ePM1 55% (F7) can be used in conjunction with each other on supply air side.

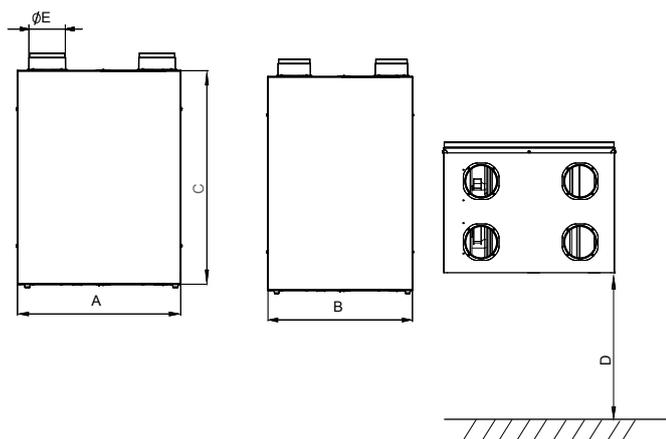


TECHNICAL DATA

Specification	DV82 Entro-V
Air flow m ³ /h / l/s @100Pa	295 / 83.3
For dwelling floor area up to (m ²)	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	166 W
Sound level @ 3m (dB(A))	39 - 48
Specific Power Input (SPI) (W/(m ³ /h))	0.27
Fans	EC
Electric heater	2 x 83 W
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*	(G4) ISO Coarse 55%, optional (F7) ISO ePM1 55%
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 no.	90001244

*Complies with ISO 16890

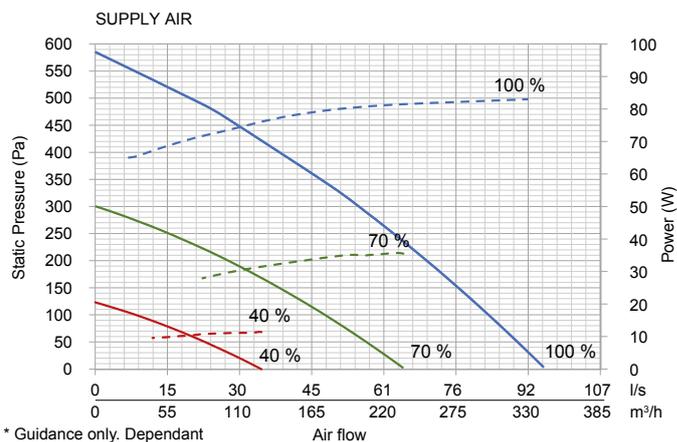
DIMENSIONS



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

Model	A	B	C	D	E
DV82	580	530	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

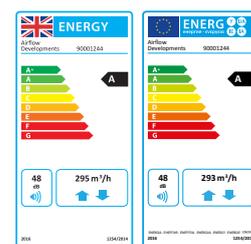
ACCESSORIES

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 55%) filter	90001327
DV82 Entro-V heater 0,5 kW	90001338
DV82 Entro-V heater 1 kW	90001339
DV82 Entro-V heater 1,5 kW	90001340
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 Label 90001244

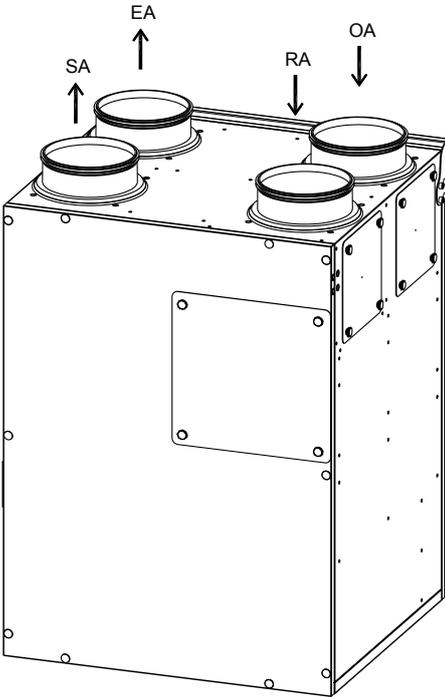


Duplexvent DV82 Entro-V

Up to 295 m³/h air volume @100 Pa

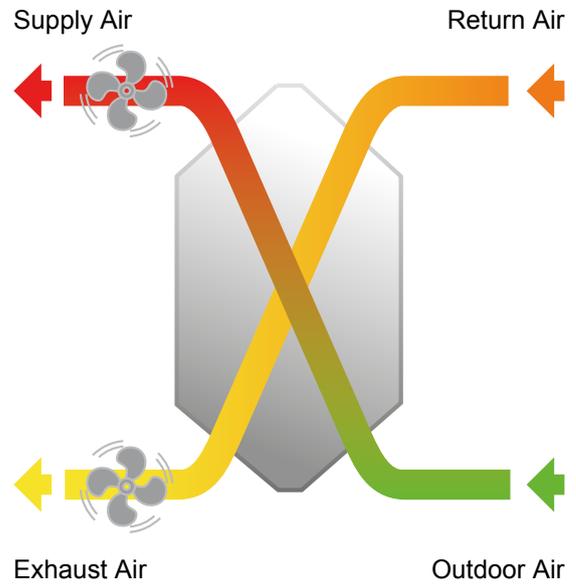
UNIT CONFIGURATION

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



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

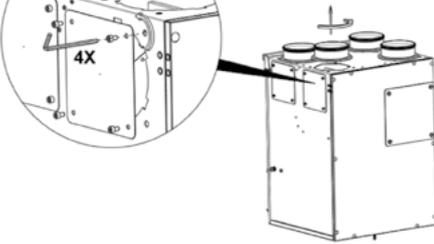
HEAT EXCHANGER DIAGRAM



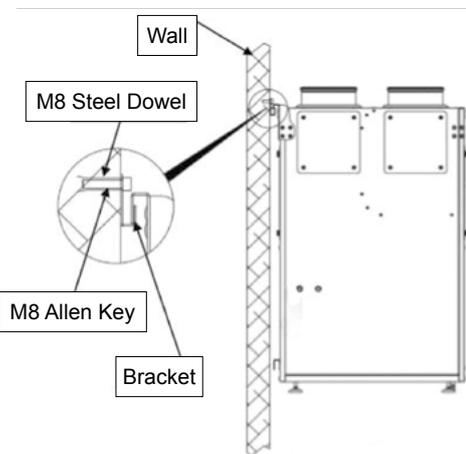
INSTALLATION

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.

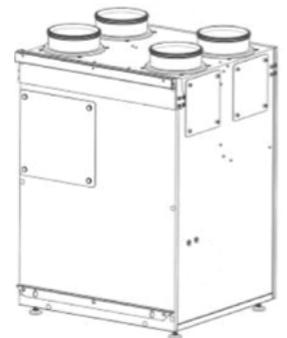
CHANGING THE SIGPOTS POSITION



INSTALLATION ON THE WALL



INSTALLATION ON THE FLOOR



SOUND DATA

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

Basic controls

	Low fan speed e.g. background ventilation		Control button to increase the fan speed
	Medium fan speed e.g. everyday running rate		Control button to decrease the fan speed
	High fan speed e.g. when cooking or showering		Filter reminder / Error display LED
	Boost 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



Duplexvent DV130 Entro-V

Up to 460 m³/h air volume @100 Pa



KEY FEATURES

- Domestic and residential heat recovery ventilation
- Thermal efficiency capabilities of 85% and above
- 2x ISO ePM Coarse 55% (G4) filters as standard with an extra supply air filter location for an optional ISO ePM1 55% (F7) - ISO 16890 compliant
- Compact design
- Suitable for vertical mounting (kits included as standard)
- Easy filter change with no tools needed
- Choice of spigot locations (top entry as standard)
- Suitable for left- and right-hand configurations
- Complies with Building Regulations
- SAP eligible
- 2 year warranty+

Duplexvent DV130 Entro-V

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. 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 55% (F7) pollen filter which provides additional protection against invisible, harmful particles creating an ultra-hygienic environment. ISO ePM Coarse 55% (G4) and ISO ePM1 55% (F7) can be used in conjunction with each other on supply air side.

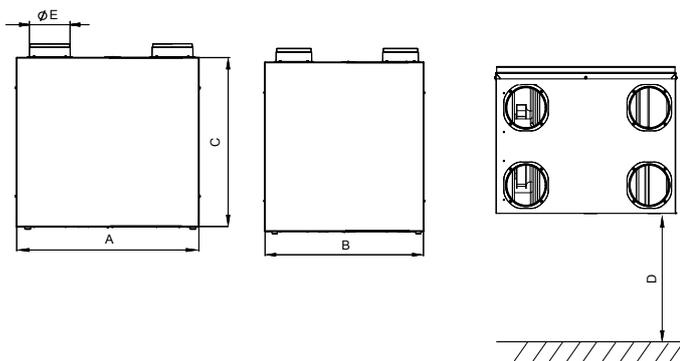


TECHNICAL DATA

Specification	DV130 Entro-V
Air flow m ³ /h / l/s @100Pa	460 / 127.7
For dwelling floor area up to (m ²)	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	230 W
Sound level @ 3m (dB(A))	36 - 48
Specific Power Input (SPI) (W/(m ³ /h))	0.267
Fans	EC
Electric heater	2 x 115 W
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	(G4) ISO Coarse 55%, optional (F7) ISO ePM1 55%
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 no.	90001245

*Complies with ISO 16890

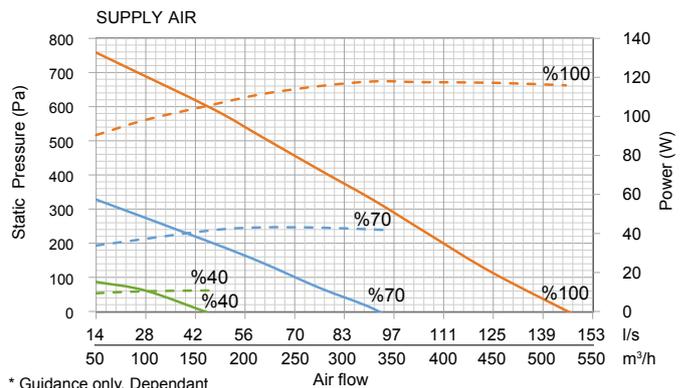
DIMENSIONS



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

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

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	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

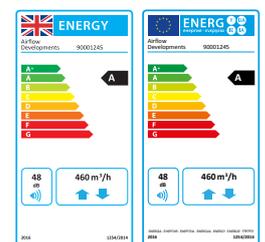
ACCESSORIES

The following options are available

Accessory	Product Code
Entro-V digital controller	90001299
Entro-V basic controller	90001308
DV130 Entro-V G4 filter (ISO Coarse 55%)	90001325
DV130 Entro-V F7 (ISO ePM1 55%) filter	90001328
DV130 Entro-V heater 0,5 kW	90001342
DV130 Entro-V heater 1 kW	90001343
DV130 Entro-V heaters 1,5 kW	90001344
DV130 Entro-V heaters 2 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. Label 90001245

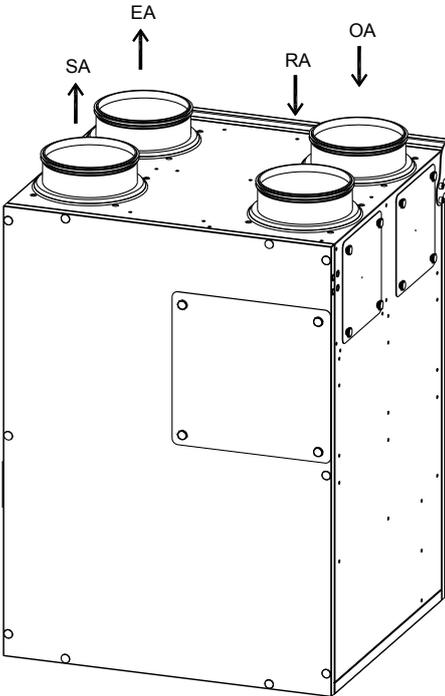


Duplexvent DV130 Entro-V

Up to 460 m³/h air volume @100 Pa

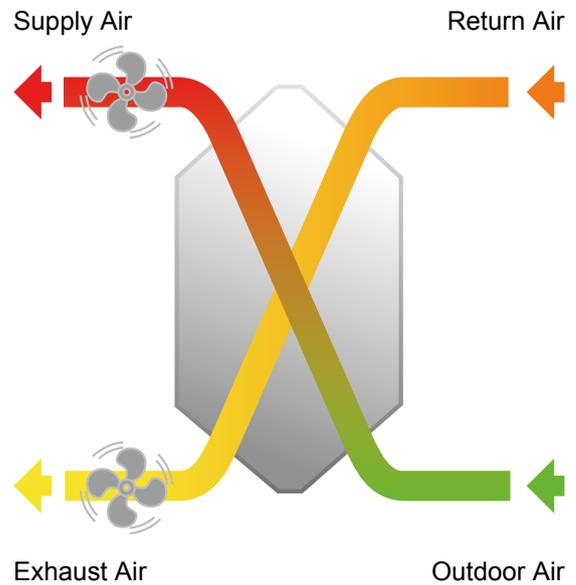
UNIT CONFIGURATION

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



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

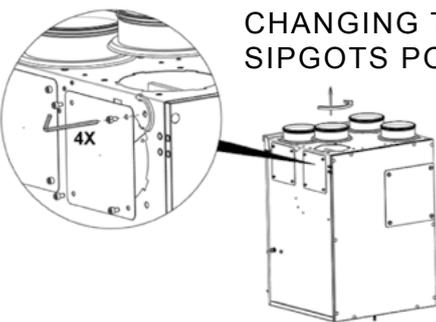
HEAT EXCHANGER DIAGRAM



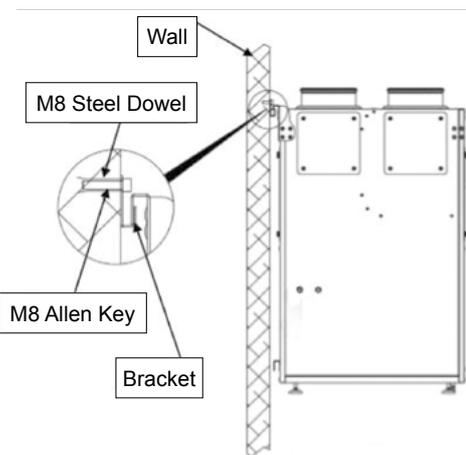
INSTALLATION

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.

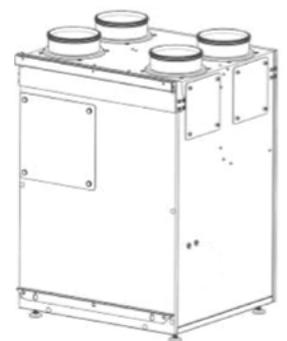
CHANGING THE SPOGOTS POSITION



INSTALLATION ON THE WALL



INSTALLATION ON THE FLOOR



SOUND DATA

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

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



Basic controls

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

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



DV250 Entro

Entro line side entry -

Up to 279 m³/h air volume (free flow)



KEY FEATURES

- For use in dwellings up to 120 m²*
- Air volume up to 230 m³/h at 100 Pa
- Up to 93% thermal efficiency
- 'A' energy rating
- Adjustable control
- Two ISO Coarse 60% (G4) filters [Two ISO ePM1 55% (F7) optional] - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Lightweight design allows for multiple install options
- Durable EPP (Expanded Polypropylene) casing
- Optional Digital Controller
- Auto cut-out switch for extra safety
- Optional Electric Pre-Heater / Post Heater
- Complies with Building Regulations and Passive House certified
- SAP eligible
- 2 year warranty*

DV250 Entro

The DV250 Entro is a highly efficient, side entry MVHR unit that can recover up to 93% of other wasted heat.

The unit is made with high density EPP material which provides significant insulation and eliminates thermal bridging. DV250 has a low energy EC fans that minimise the unit's energy consumption and can help you reduce your energy bills.

The unit has an easy to maintain plastic counterflow heat exchanger that prevents the airstreams from mixing and easy to clean air filters that provide you with a clean, healthy indoor air environment.

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

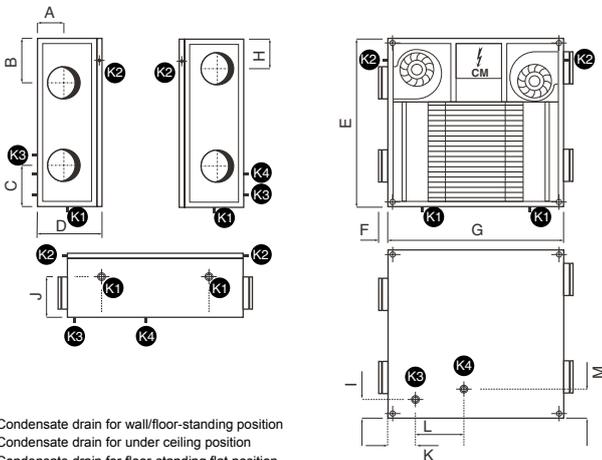


TECHNICAL DATA

Specification	DV250 Entro
Suitable for dwellings up to m ²	120*
Max air flow (m ³ /h) / (l/s) at 100Pa.	230 / 64
Max Thermal efficiency (%)	Up to 93
Heat exchanger	Counterflow (Plastic)
Fans	EC
Summer bypass damper	100% automatic
Frost protection	Reducing supply air Optional Pre-heater
Controls	Variable speed controller Touch screen panel (optional)
Mounting	Floor / Ceiling / Wall
Sound Power Level @ 3m (dB (A))	40
Duct Diameter (mm)	160 (4 ports)
Condensate discharge (mm)	14
Electrical supply	230V / 1ph / 50Hz
Max. Power Consumption (W)	120
Filter Class**	2x ISO Coarse 60% (G4) filters [2x ISO ePM1 55% (F7) optional]]
Ducted Electric Post Heater (optional) (W)	400 / 700 / 1700
Ducted Electric Pre-Heater (optional) (W)	400 / 700 / 1700
Protection class	IP20
Weight (kg)	20
Dimensions (L x D x H) (mm)	850 x 280 x 660
Entry	Side Entry
Part Number	90000397

**Complies with ISO 16890

DIMENSIONS



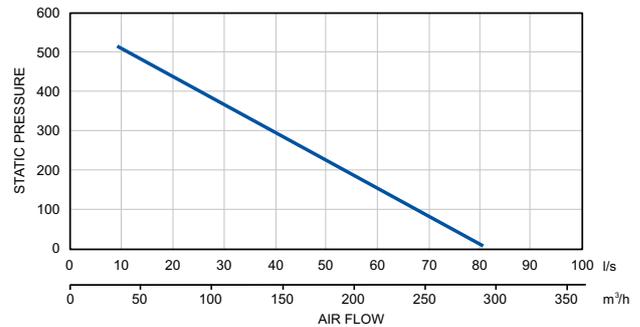
K1. Condensate drain for wall/floor-standing position
 K2. Condensate drain for under ceiling position
 K3. Condensate drain for floor-standing flat position
 K4. Condensate drain for floor-standing flat position
 (only one K outlet is connected according to unit orientation)

Model	A	B	C	D	E	F	G	H	I	J	K	L	M
DV250	100	210	190	280	660	45	850	135	65	198	120	425	90

ACCESSORIES

See switches/accessories for more details.

PERFORMANCE



*Guidance only. Dependent upon system pressure.

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	0.67	83%
Kitchen+2 additional wet room	0.66	82%
Kitchen+3 additional wet room	0.73	81%
Kitchen+4 additional wet room	0.82	80%
Kitchen+5 additional wet room	0.96	80%
Kitchen+6 additional wet room	1.12	79%
Kitchen+7 additional wet room	1.32	79%

Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.7	82%
Kitchen+2 additional wet room	0.78	81%
Kitchen+3 additional wet room	0.93	80%
Kitchen+4 additional wet room	1.2	79%
Kitchen+5 additional wet room	1.38	79%

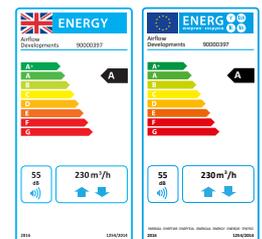
ACCESSORIES

The following options are available

Accessory	Product Code
Filter pack 10pcs ISO Coarse 60% (G4)	90000410
Filter pack 10pcs ISO ePM1 55% (F7)	90000648
Ducted electric pre/post heater 400W	90000413
Ducted electric pre/post heater 700W	90000414
Ducted electric pre/post heater 1700W	90000415
Entro Touchscreen controller	90000409
Entro adjustable manual speed controller	90000408
DV250 Entro metal casing	90000345
Room Humidity Sensor	90000320
Ducted Humidity Sensor	90000659

CERTIFICATION

The DV250 Entro 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 DV250 Fiche and Label at: www.airflow.com



The DV250 Entro was tested and has achieved Passive House Approval by the Passive House Institute when equipped with a pre-heater.



DV250 Entro

Entro line side entry -
Up to 279 m³/h air volume (free flow)

MOUNTING POSITIONS

Unique to these side entry units is the ability to install the same unit at:

- **Wall / Floor - standing position**
- **Ceiling - flat position**
(with inclination for drainage)
- **Floor - flat position**
(with inclination for drainage)

This provides exceptional flexibility in product specification, installation and storage.



SIMPLE CONTROL

Simple control incorporates the following features:

- **Variable speed control** 100% adjustable by the user
- **Automatic boost function** increases air flow when needed (via volt-free contact or 0-10 V sensor output)
- **Automatic frost protection** reduces the supply ventilation rate for a certain period to prevent ice build-up within the heat recovery cell depending on the outside air temperature
- **Automatic summer bypass** fully isolates the heat exchanger and helps prevent overheating the dwelling during the summer months. Its motorised damper is triggered by the temperature sensor automatically
- **Heater control** for pre-heater and post-heater



TOUCH SCREEN CONTROL

Additionally, the digital control provides the following features:

- **Stylish Touch Screen** with easy-to-use interface
- **Weekly ventilation programming** allows users to pre-set the ventilation levels scheduled for different days.
- **Party / Holiday mode** to set the air volume for specific time period based on occupancy.
- **Filter Maintenance reminder**
- **Indoor temperature control and display** based on;
Extract air temperature
Supply air temperature



HEATERS

The new generation PTC (Positive Temperature Coefficient) electric heater incorporates a power adjustment facility which automatically increases/decreases the power based on the air volume going through the heater hence shortens the heating response.

Also the heater has two protection thermostats and a perforated metal filter which can easily be maintained via the inspection door. This significantly increases its life span especially when the heater is installed on the incoming air side for frost protection purposes. Alternatively it can be used as post-heater to achieve the required indoor air temperature.

- Used as a **preheater** to preheat the fresh air, to be installed in duct on the fresh air inlet
- Used as an **postheater** to reheat the supply air, to be installed in duct after the unit
- Integrated PTC (Positive Temperature Coefficient) heating elements

- Housing includes a terminal board and internal wiring
- Includes two protection thermostats – a reversible one and a safety irreversible one
- Contains an interference-free SSR relay as standard
- Perforated metal filter to protect heater from gross particles (easily cleanable)
- Galvanised sheet metal housing



Description	Part number	Diameter (mm)	Voltage (V)	Power input (kW)
Ducted electric pre/post heater 400W	90000413	Ø 160	1 x 230 V ~	0.4
Ducted electric pre/post heater 700W	90000414	Ø 160	1 x 230 V ~	0.7
Ducted electric pre/post heater 1700W	90000415	Ø 160	1 x 230 V ~	1.7

METAL HOUSING

To achieve better sound levels the units can optionally be covered with a metal jacket which is made of galvanised metal sheet.

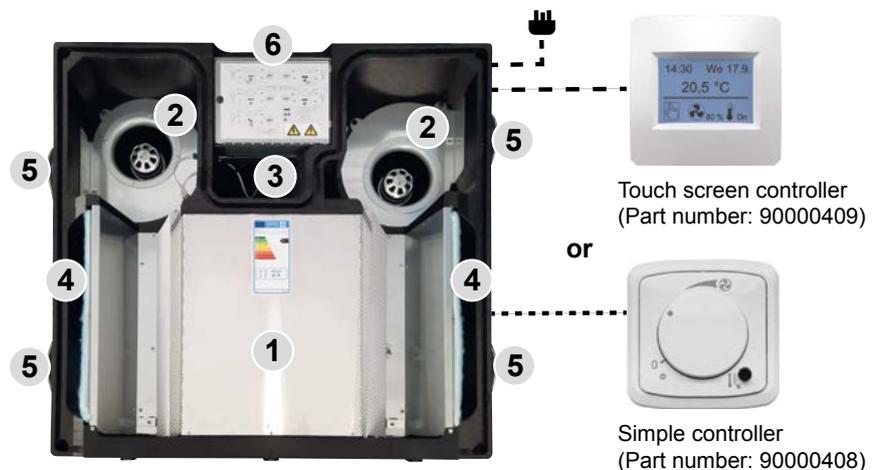
This special accessory also protects the unit from external damage and extends the life span of the unit.

Part number:
90000345 -
DV250
Entro Metal
housing



KEY COMPONENTS

- 1 Counter-flow heat exchanger with efficiency up to 93 %
- 2 EC fans
- 3 Bypass damper with actuator
- 4 2x ISO Coarse 60% (G4) filters [2x ISO ePM1 55% (F7) optional]
- 5 Spigot
- 6 EPP casing



DV300 Entro

Entro line side entry -
Up to 352 m³/h air volume (free flow)



KEY FEATURES

- For use in dwellings up to 150m²*
- Air volume up to 300 m³/h at 100 Pa
- Up to 93% thermal efficiency
- 'A' energy rating
- Adjustable control
- Two ISO Coarse 60% (G4) filters [Two ISO ePM1 55% (F7) optional)] - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Lightweight design allows for multiple install options
- Durable EPP (Expanded Polypropylene) casing
- Optional Digital Controller
- Auto cut-out switch for extra safety
- Optional Electric Pre-Heater / Post Heater
- Complies with Building Regulations and Passive House certified
- SAP eligible
- 2 year warranty*

DV300 Entro

The DV300 Entro is a highly efficient, side entry MVHR unit that can recover up to 93% of other wasted heat.

The unit is made with high density EPP material which provides significant insulation and eliminates thermal bridging. DV300 has a low energy EC fans that minimise the unit's energy consumption and can help you reduce your energy bills.

The unit has an easy to maintain plastic counterflow heat exchanger that prevents the airstreams from mixing and easy to clean air filters that provide you with a clean, healthy indoor air environment.

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

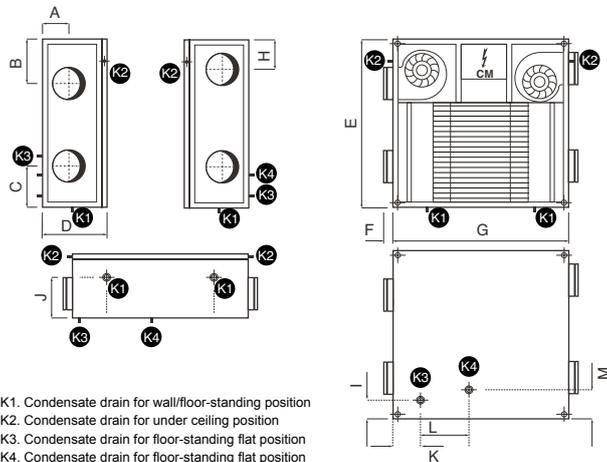


TECHNICAL DATA

Specification	DV300 Entro
Suitable for dwellings up to m ²	150*
Max air flow (m ³ /h) / (l/s) at 100Pa.	300 / 83
Max Thermal efficiency (%)	Up to 93
Heat exchanger	Counterflow (Plastic)
Fans	EC
Summer bypass damper	100% automatic
Frost protection	Reducing supply air Optional Pre-heater
Controls	Variable speed controller Touch screen panel (optional)
Mounting	Floor / Ceiling / Wall
Sound Power Level @ 3m (dB (A))	40
Duct Diameter (mm)	160 (4 ports)
Condensate discharge (mm)	14
Electrical supply	230V / 1ph / 50Hz
Max. Power Consumption (W)	120
Filter Class**	2x ISO Coarse 60% (G4) filters [2x ISO ePM1 55% (F7) optional]
Ducted Electric Post Heater (optional) (W)	400 / 700 / 1700
Ducted Electric Pre-Heater (optional) (W)	400 / 700 / 1700
Protection class	IP20
Weight (kg)	21
Dimensions (L x D x H) (mm)	850 x 280 x 820
Entry	Side Entry
Part Number	90000398

**Complies with ISO 16890

DIMENSIONS



K1. Condensate drain for wall/floor-standing position
K2. Condensate drain for under ceiling position
K3. Condensate drain for floor-standing flat position
K4. Condensate drain for floor-standing flat position
(only one K outlet is connected according to unit orientation)

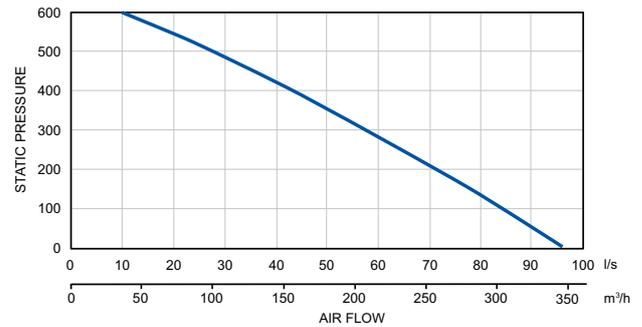
+excludes motors. Motor warranty one year from date of purchase.

Model	A	B	C	D	E	F	G	H	I	J	K	L	M
DV300	100	210	190	280	820	45	850	135	65	198	120	435	90

ACCESSORIES

See switches/accessories for more details.

PERFORMANCE



*Guidance only. Dependent upon system pressure.

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	0.65	85%
Kitchen+2 additional wet room	0.56	84%
Kitchen+3 additional wet room	0.57	82%
Kitchen+4 additional wet room	0.63	81%
Kitchen+5 additional wet room	0.71	81%
Kitchen+6 additional wet room	0.81	80%
Kitchen+7 additional wet room	0.91	79%

Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.58	84%
Kitchen+2 additional wet room	0.62	82%
Kitchen+3 additional wet room	0.7	81%
Kitchen+4 additional wet room	0.84	80%
Kitchen+5 additional wet room	0.99	79%

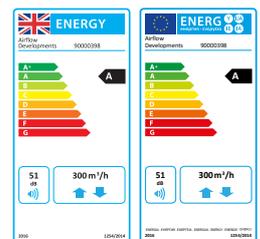
ACCESSORIES

The following options are available

Accessory	Product Code
Filter pack 10pcs ISO Coarse 60% (G4)	90000411
Filter pack 10pcs ISO ePM1 55% (F7)	90000649
Ducted electric pre/post heater 400W	90000413
Ducted electric pre/post heater 700W	90000414
Ducted electric pre/post heater 1700W	90000415
Entro Touchscreen controller	90000409
Entro adjustable manual speed controller	90000408
DV300 Entro metal casing	90000347
Room Humidity Sensor	90000320
Ducted Humidity Sensor	90000659

CERTIFICATION

The DV300 Entro 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 DV300 Fiche and Label at: www.airflow.com



The DV300 Entro was tested and has achieved Passive House Approval by the Passive House Institute when equipped with a pre-heater.



DV300 Entro

Entro line side entry -
Up to 352 m³/h air volume (free flow)

MOUNTING POSITIONS

Unique to these side entry units is the ability to install the same unit at:

- **Wall / Floor - standing position**
- **Ceiling - flat position**
(with inclination for drainage)
- **Floor - flat position**
(with inclination for drainage)

This provides exceptional flexibility in product specification, installation and storage.



SIMPLE CONTROL

Simple control incorporates the following features:

- **Variable speed control** 100% adjustable by the user
- **Automatic boost function** increases air flow when needed (via volt-free contact or 0-10 V sensor output)
- **Automatic frost protection** reduces the supply ventilation rate for a certain period to prevent ice build-up within the heat recovery cell depending on the outside air temperature
- **Automatic summer bypass** fully isolates the heat exchanger and helps prevent overheating the dwelling during the summer months. Its motorised damper is triggered by the temperature sensor automatically
- **Heater control** for pre-heater and post-heater



TOUCH SCREEN CONTROL

Additionally, the digital control provides the following features:

- **Stylish Touch Screen** with easy-to-use interface
- **Weekly ventilation programming** allows users to pre-set the ventilation levels scheduled for different days.
- **Party / Holiday mode** to set the air volume for specific time period based on occupancy.
- **Filter Maintenance reminder**
- **Indoor temperature control and display** based on;
Extract air temperature
Supply air temperature



HEATERS

The new generation PTC (Positive Temperature Coefficient) electric heater incorporates a power adjustment facility which automatically increases/decreases the power based on the air volume going through the heater hence shortens the heating response.

Also the heater has two protection thermostats and a perforated metal filter which can easily be maintained via the inspection door. This significantly increases its life span especially when the heater is installed on the incoming air side for frost protection purposes. Alternatively it can be used as post-heater to achieve the required indoor air temperature.

- Used as a **preheater** to preheat the fresh air, to be installed in duct on the fresh air inlet
- Used as an **postheater** to reheat the supply air, to be installed in duct after the unit
- Integrated PTC (Positive Temperature Coefficient) heating elements

- Housing includes a terminal board and internal wiring
- Includes two protection thermostats – a reversible one and a safety irreversible one
- Contains an interference-free SSR relay as standard
- Perforated metal filter to protect heater from gross particles (easily cleanable)
- Galvanised sheet metal housing



Description	Part number	Diameter (mm)	Voltage (V)	Power input (kW)
Ducted electric pre/post heater 400W	90000413	Ø 160	1 x 230 V ~	0.4
Ducted electric pre/post heater 700W	90000414	Ø 160	1 x 230 V ~	0.7
Ducted electric pre/post heater 1700W	90000415	Ø 160	1 x 230 V ~	1.7

METAL HOUSING

To achieve better sound levels the units can optionally be covered with a metal jacket which is made of galvanised metal sheet.

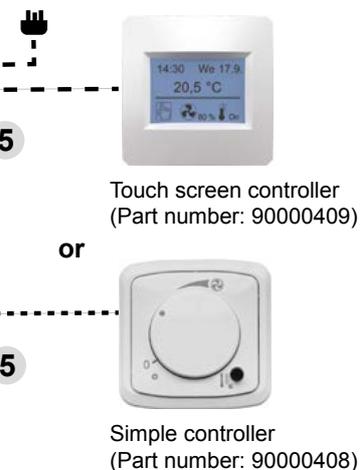
This special accessory also protects the unit from external damage and extends the life span of the unit.

Part number:
90000347 -
DV300
Entro Metal
housing



KEY COMPONENTS

- 1 Counter-flow heat exchanger with efficiency up to 93 %
- 2 EC fans
- 3 Bypass damper with actuator
- 4 2x ISO Coarse 60% (G4) filters [2x ISO ePM1 55% (F7) optional]
- 5 Spigot
- 6 EPP casing



DV400 Entro

Entro line side entry -

Up to 422 m³/h air volume (free flow)



KEY FEATURES

- For use in dwellings up to 150 m²*
- Air volume up to 385 m³/h at 100 Pa
- Up to 93% thermal efficiency
- 'A' energy rating
- Adjustable control
- Two ISO Coarse 60% (G4) filters [Two ISO ePM1 55% (F7) optional]] - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Lightweight design allows for multiple install options
- Durable EPP (Expanded Polypropylene) casing
- Optional Digital Controller
- Auto cut-out switch for extra safety
- Optional Electric Pre-Heater / Post Heater
- Complies with Building Regulations and Passive House certified
- SAP eligible
- 2 year warranty*

DV400 Entro

The DV400 Entro is a highly efficient, side entry MVHR unit that can recover up to 93% of other wasted heat.

The unit is made with high density EPP material which provides significant insulation and eliminates thermal bridging. DV400 has a low energy EC fans that minimise the unit's energy consumption and can help you reduce your energy bills.

The unit has an easy to maintain plastic counterflow heat exchanger that prevents the airstreams from mixing and easy to clean air filters that provide you with a clean, healthy indoor air environment.

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

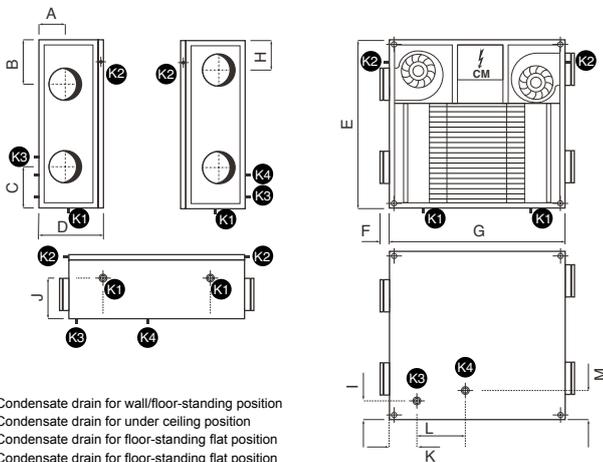


TECHNICAL DATA

Specification	DV400 Entro
Suitable for dwellings up to m ²	200*
Max air flow (m ³ /h) / (l/s) at 100Pa.	385 / 107
Max Thermal efficiency (%)	Up to 93
Heat exchanger	Counterflow (Plastic)
Fans	EC
Summer bypass damper	100% automatic
Frost protection	Reducing supply air Optional Pre-heater
Controls	Variable speed controller Touch screen panel (optional)
Mounting	Floor / Ceiling / Wall
Sound Power Level @ 3m (dB (A))	42
Duct Diameter (mm)	160 (4 ports)
Condensate discharge (mm)	14
Electrical supply	230V / 1ph / 50Hz
Max. Power Consumption (W)	220
Filter Class**	2x ISO Coarse 60% (G4) filters [2x ISO ePM1 55% (F7) optional]
Ducted Electric Post Heater (optional) (W)	400 / 700 / 1700
Ducted Electric Pre-Heater (optional) (W)	400 / 700 / 1700
Protection class	IP20
Weight (kg)	21
Dimensions (L x D x H) (mm)	850 x 280 x 820
Entry	Side Entry
Part Number	90000399

**Complies with ISO 16890

DIMENSIONS



K1. Condensate drain for wall/floor-standing position
K2. Condensate drain for under ceiling position
K3. Condensate drain for floor-standing flat position
K4. Condensate drain for floor-standing flat position
(only one K outlet is connected according to unit orientation)

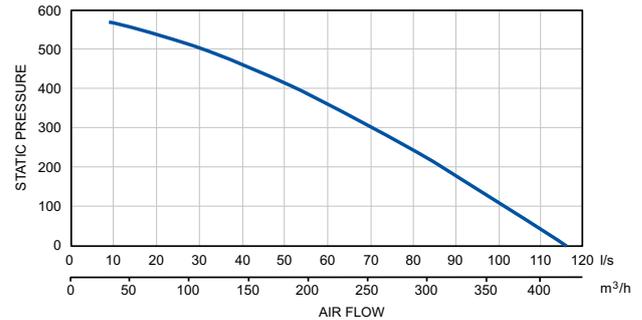
*excludes motors. Motor warranty one year from date of purchase.

Model	A	B	C	D	E	F	G	H	I	J	K	L	M
DV400	100	210	190	280	820	45	850	135	65	198	120	435	90

ACCESSORIES

See switches/accessories for more details.

PERFORMANCE



*Guidance only. Dependent upon system pressure.

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	0.77	85%
Kitchen+2 additional wet room	0.58	84%
Kitchen+3 additional wet room	0.56	82%
Kitchen+4 additional wet room	0.61	81%
Kitchen+5 additional wet room	0.71	81%
Kitchen+6 additional wet room	0.83	80%
Kitchen+7 additional wet room	0.97	79%

Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.59	84%
Kitchen+2 additional wet room	0.61	82%
Kitchen+3 additional wet room	0.71	81%
Kitchen+4 additional wet room	0.87	80%
Kitchen+5 additional wet room	1.03	79%
Kitchen+6 additional wet room	1.27	79%

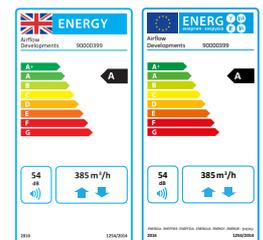
ACCESSORIES

The following options are available

Accessory	Product Code
Filter pack 10pcs ISO Coarse 60% (G4)	90000411
Filter pack 10pcs ISO ePM1 55% (F7)	90000649
Ducted electric pre/post heater 400W	90000413
Ducted electric pre/post heater 700W	90000414
Ducted electric pre/post heater 1700W	90000415
Entro Touchscreen controller	90000409
Entro adjustable manual speed controller	90000408
DV300 Entro metal casing	90000347
Room Humidity Sensor	90000320
Ducted Humidity Sensor	90000659

CERTIFICATION

The DV400 Entro 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 DV400 Fiche and Label at: www.airflow.com



The DV400 Entro was tested and has achieved Passive House Approval by the Passive House Institute when equipped with a pre-heater.



DV400 Entro

Entro line side entry -
Up to 422 m³/h air volume (free flow)

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- **Heater control** for pre-heater and post-heater



TOUCH SCREEN CONTROL

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- Integrated PTC (Positive Temperature Coefficient) heating elements

- Housing includes a terminal board and internal wiring
- Includes two protection thermostats – a reversible one and a safety irreversible one
- Contains an interference-free SSR relay as standard
- Perforated metal filter to protect heater from gross particles (easily cleanable)
- Galvanised sheet metal housing



Description	Part number	Diameter (mm)	Voltage (V)	Power input (kW)
Ducted electric pre/post heater 400W	90000413	Ø 160	1 x 230 V ~	0.4
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Ducted electric pre/post heater 1700W	90000415	Ø 160	1 x 230 V ~	1.7

METAL HOUSING

To achieve better sound levels the units can optionally be covered with a metal jacket which is made of galvanised metal sheet.

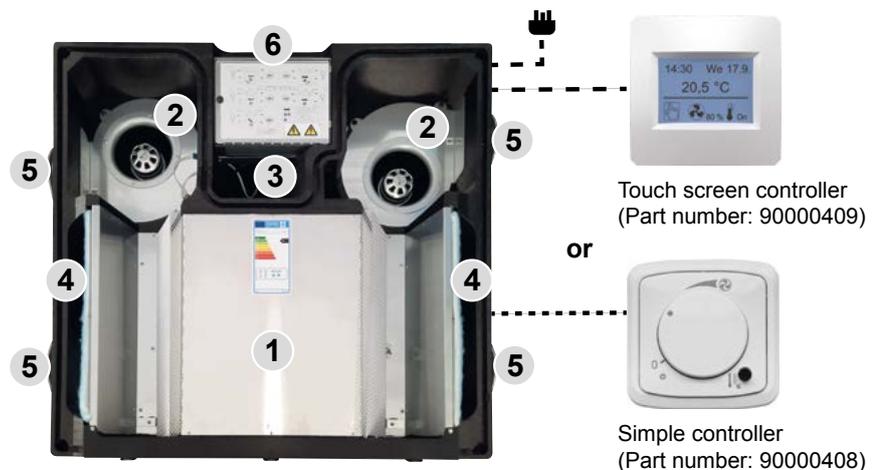
This special accessory also protects the unit from external damage and extends the life span of the unit.

Part number:
90000347 -
DV400
Entro Metal
housing



KEY COMPONENTS

- 1 Counter-flow heat exchanger with efficiency up to 93 %
- 2 EC fans
- 3 Bypass damper with actuator
- 4 2x ISO Coarse 60% (G4) filters [2x ISO ePM1 55% (F7) optional]
- 5 Spigot
- 6 EPP casing



Adroit DV51CH

Adroit Line Top Entry -

Up to 170 m³/h air volume @100Pa



KEY FEATURES

- Flow rate up to 47 l/s (170 m³/h) at 100 Pa
- Up to 84% thermal efficiency and low SFP
- Internet control by smart phone, tablet or PC
- Two ISO Coarse > 75% (G4) and one ISO 50% (F7) filters - ISO 16890 compliant
- Full heat recovery for the whole dwelling
- Slim and stylish extractor hood
- Partial bypass function to achieve a suitable supply air temperature
- Optional LCD digital controller with four independent environmental profiles
- Optional built-in electric heater
- Complies with Building Regulations' before 5 year warranty
- Cooker hood available in white and stainless steel
- Fits neatly as part of an integrated solution
- Built-in humidity and carbon dioxide sensors
- 5 year warranty+

Adroit DV51CH

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.



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

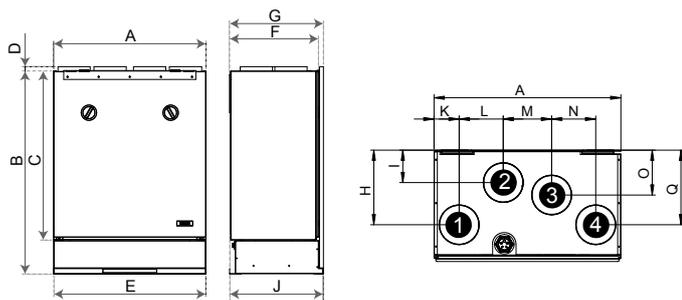
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.78	80
Kitchen+2 additional wet room	0.84	80
Kitchen+3 additional wet room	0.99	81
Kitchen+4 additional wet room	1.24	81

TECHNICAL DATA

Specification	DV51CH (R) Adroit	DV51CH (L) Adroit
Suitable for dwellings up to m ²	75	75
Air flow m ³ /h / l/s @100 Pa	170 / 47	170 / 47
Thermal efficiency	Up to 83%	Up to 83%
Heat exchanger	Counterflow (Aluminium)	Counterflow (Aluminium)
Fans	EC	EC
Summer bypass damper	100% automatic	100% automatic
Frost protection	Stop supply fan	Stop supply fan
Controls	Capacitive buttons with 3 speed profiles (on cooker hood)	Capacitive buttons with 3 speed profiles (on cooker hood)
Digital controls	Optional digital - 4 profiles, 100% adjustable	Optional digital - 4 profiles, 100% adjustable
Mounting	Wall	Wall
Sound level @ 3m (dB(A))	28	28
Duct diameter (mm)	4x125	4x125
Condensate discharge (mm)	12	12
Electrical supply	230 V / 1 ph / 50 Hz	230 V / 1 ph / 50 Hz
Max. power consumption	119 W	119 W
Filter class*	2 x ISO Coarse > 75% (G4) and 1 x ISO ePM1 50% (F7) filters	2 x ISO Coarse > 75% (G4) and 1 x ISO ePM1 50% (F7) filters
Built-in electric post-heater (optional)	900 W	900 W
Protection class	IP34	IP34
Casing insulation (mm)	10	10
Weight (kg)	66.2 (including cooker hood)	66.2 (including cooker hood)
Dimensions (L x D x H) (mm)	598x349x802 (including cooker hood)	598x349x802 (including cooker hood)
Part No.	90001174 (white) 90001172 (stainless steel)	90001175 (white) 90001173 (stainless steel)

*Complies with ISO 16890

DIMENSIONS



Duct outlets, Model R

Inner diameter of female outlet collar ø125 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

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

Duct outlets, Model L

Inner diameter of female outlet collar ø125 mm

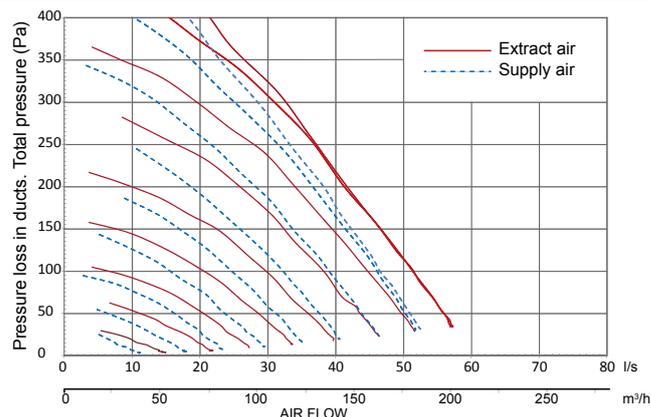
1. Outdoor air to the unit
2. Exhaust air flowing outdoors from the unit
3. Supply air from the unit to the apartment
4. Extract air from the apartment to the unit

Model	A	B	C	D	E	F	G	H	I
DV51CH	598	802	668	17	597	249	368	241	105
	J	K	L	M	N	O	P		
	598	81	141	155	141	145	241		

ACCESSORIES

Visit airflow.com for Adroit controls options data sheet.

PERFORMANCE



* Guidance only. Dependant upon system pressure.

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

Adroit DV51CH

Adroit Line Top Entry -

Up to 170 m³/h air volume

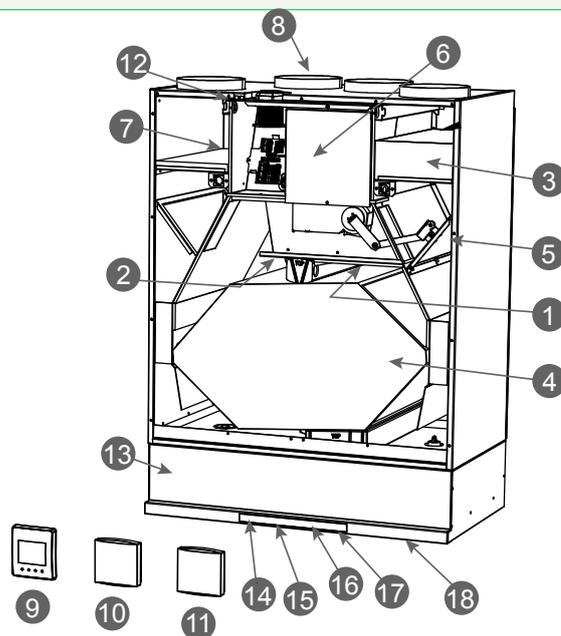
The DV51CH Adroit is fitted with a triple air filter facility which consists of two x ISO Coarse > 75% (G4) and one x ISO ePM1 50% (F7) filters – complies to ISO 16890. The air filtration will help prevent small pollen particles from entering indoors.

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
- ② Supply fan
- ③ Supply filter
- ④ Heat exchanger
- ⑤ Bypass actuator
- ⑥ Connection box
- ⑦ Extract filter
- ⑧ Post heater
- ⑨ Control panel
- ⑩ CO₂ sensor (optional)

- ⑪ Humidity sensor (optional)
- ⑫ Internal humidity and carbon dioxide sensors
- ⑬ Cooker hood
- ⑭ Damper button
- ⑮ Fan speed buttons
- ⑯ LED light button
- ⑰ Selection button
- ⑱ Grease filter



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.

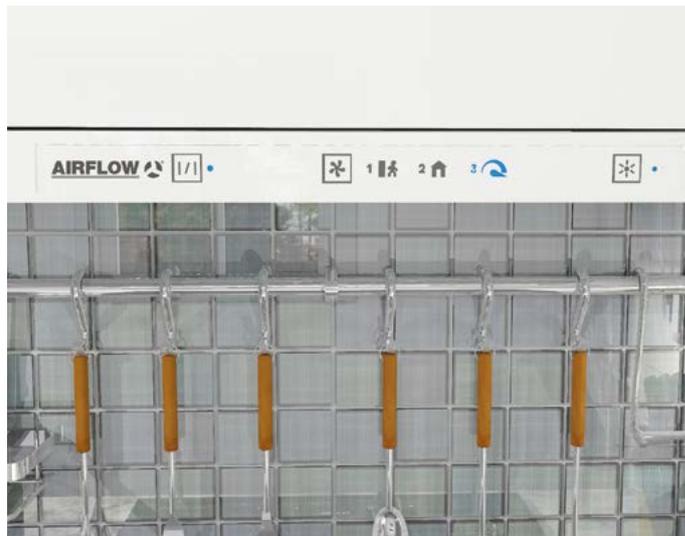


Selection button

The selection button is used to adjust the brightness of the cooker hood LED.

DV51CH Slim-Line Cooker Hood

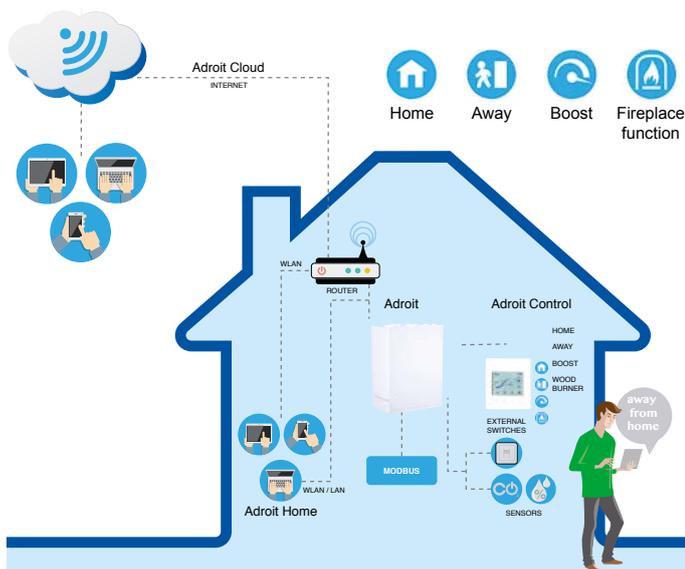
Colour options of white or brushed stainless steel



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.

- **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
- 100% adjustable speed levels
- User friendly for quick and simple control



DV96 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 345 m³/h air volume @100Pa



KEY FEATURES

- For use in dwellings up to 130 m² *
- Up to 90% thermal efficiency and low SFP
- 'A' energy rating
- Internet control by smart phone, tablet or PC
- Triple filter design with two ISO Coarse > 75% (G4) and one ISO ePM1 50% (F7) filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Galvanised steel, double-skin casing
- BMS (Modbus / KNX) connection
- Optional LCD digital controller with four independent environmental profiles
- Optional manual four speed controller
- Auto cut-out switch for extra safety
- Optional built-in electric post-heater
- Optional smart frost protection
- Complies with Building Regulations and Passive House certified
- 5 year warranty+

DV96 Adroit (Integral CO₂ Sensor)

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.

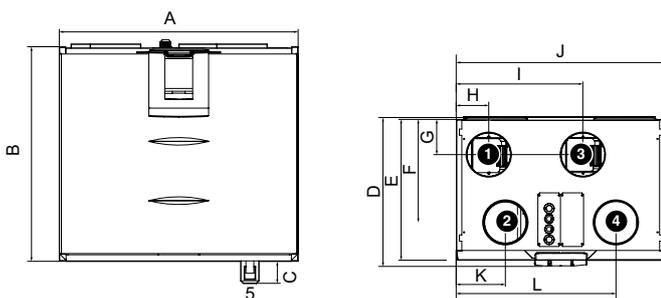


TECHNICAL DATA

Specification	DV96
Suitable for dwellings up to m ²	130
Max air flow (m ³ /h) / (l/s) at 100Pa.	320 / 89
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)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall / Ceiling
Sound power level @3m (dB(A))	48
Duct diameter (mm)	125 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Max. power consumption (W)	162
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)	53
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

*Complies with ISO 16890

DIMENSIONS



Duct outlets, model R

Inner diameter of female outlet collar ø 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

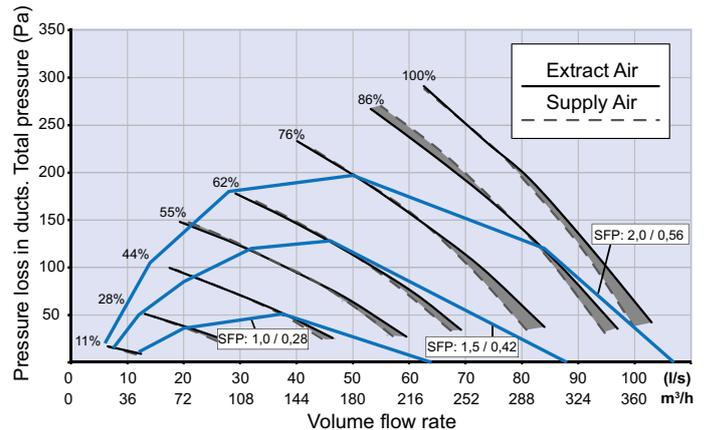
Inner diameter of female outlet collar ø125mm

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



* 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, Fireplace). 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

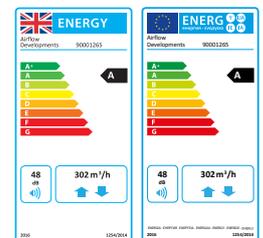
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

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
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



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 CO₂ Sensor)

Adroit Line Top Entry -
Up to 345 m³/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 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.

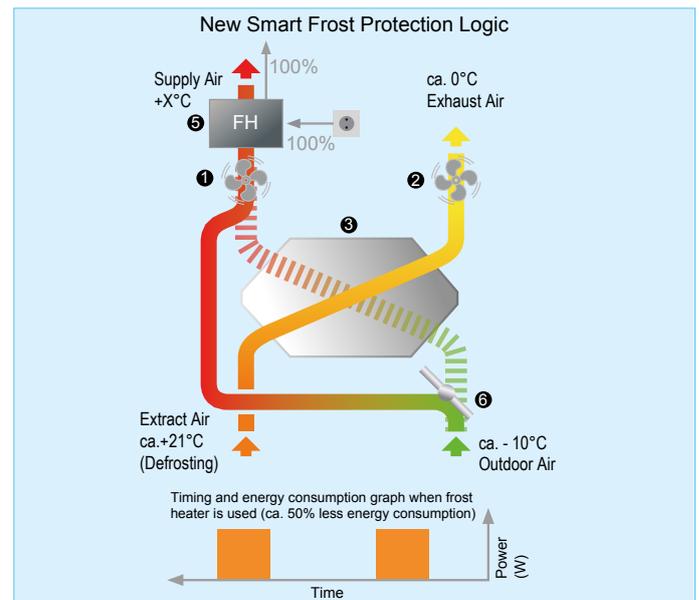
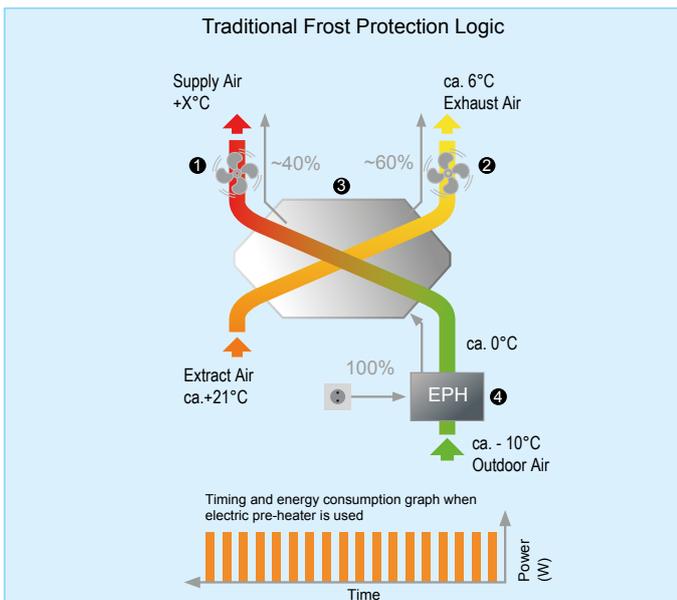
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information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



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.

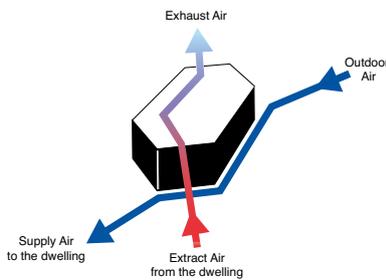


ISO Coarse > 75% (G4) filter

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 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 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

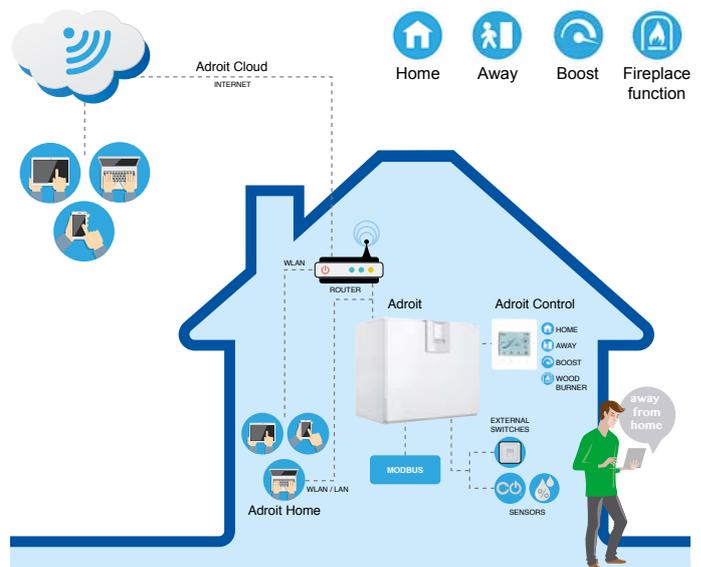
SAP RESULTS

Systems with rigid ductwork only SAP 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

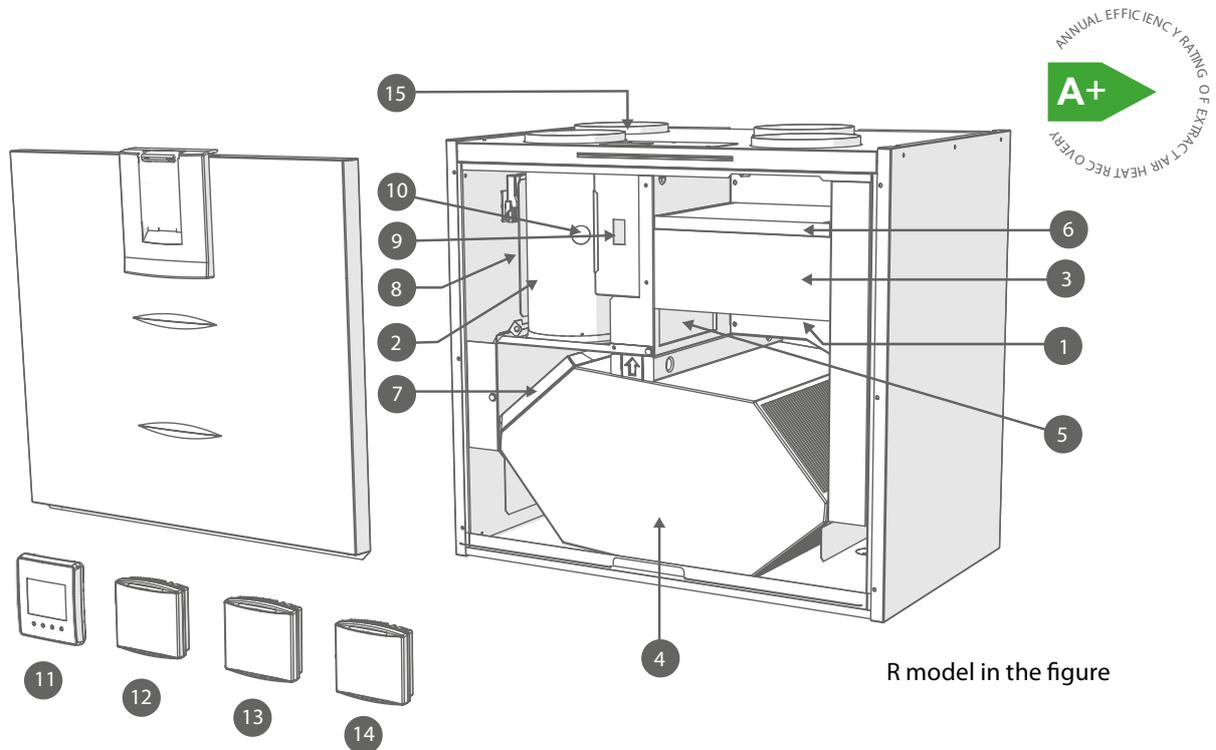
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.87	89%
Kitchen+2 additional wet rooms	0.98	88%
Kitchen+3 additional wet rooms	1.13	87%
Kitchen+4 additional wet rooms	1.4	86%



DV96 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 345 m³/h air volume @100Pa

MAIN PARTS OF THE VENTILATION UNIT

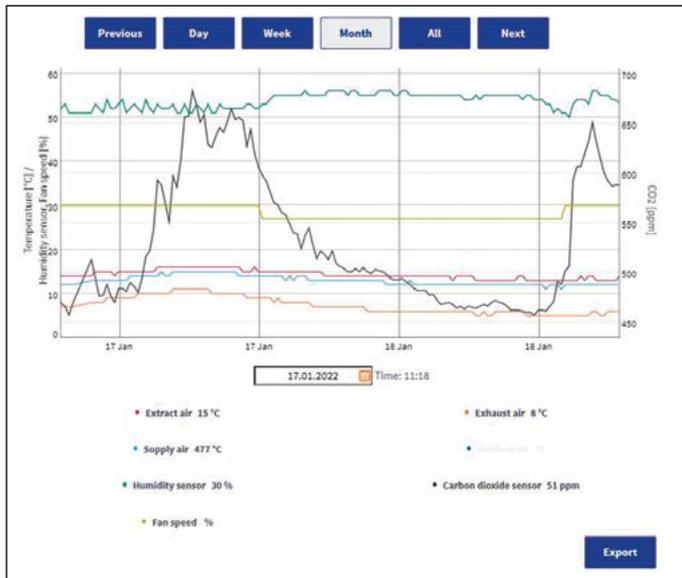


R model in the figure

- | | | | | | |
|--|--|---|---|----------------------------------|----|
|  | 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 CO₂ SENSOR

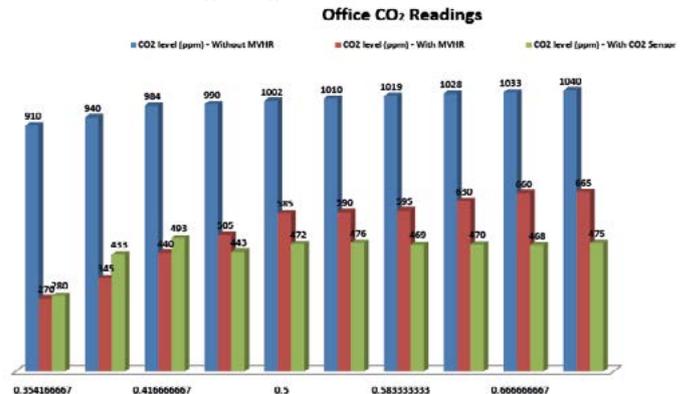
The Adroit range includes an internal carbon dioxide (CO₂) sensor as standard, to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. 1 year data log can help residents monitor the CO₂ levels. 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.



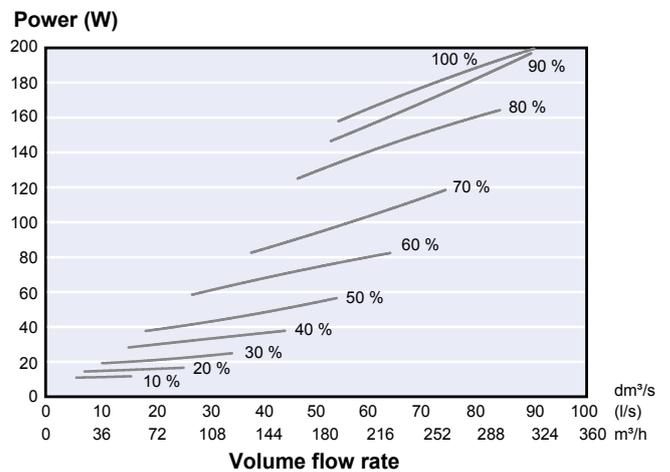
An experiment has been conducted in our offices, to understand CO₂ levels at different times and the impact an MVHR system with and without CO₂ sensor will have upon CO₂ levels.

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

CO₂ sensor threshold was set to approx. 470ppm



FAN INPUT POWER



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (dm}^3\text{/s)}}$$

SOUND VALUES

	Sound power level in the supply air duct (one duct) by octave band L _w , dB										Sound power level in the extract air duct (one duct) by octave band L _w , dB									
	Adjustment position										Adjustment position									
	10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100
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	61	65	68	70	74	75	78	79	51	56	63	66	70	73	76	78	79	79
	125	44	47	52	50	60	63	66	68	70	43	46	52	55	60	63	66	68	71	71
	250	34	41	46	50	53	57	59	62	64	33	38	44	47	51	55	58	61	63	63
	500	26	35	41	44	48	51	53	55	58	29	38	44	47	51	54	57	59	61	61
	1000	17	24	30	34	38	41	44	47	49	24	32	38	42	46	49	52	55	57	57
	2000	13	15	20	24	28	32	35	37	40	13	17	24	29	33	36	39	42	44	44
L _w , dB	17	17	17	18	21	23	26	28	31	17	17	18	20	23	26	29	32	34	34	
	8000	21	21	21	21	21	22	23	25	21	21	21	21	21	22	23	25	27	27	
L _{WA} , dB(A)	57	61	65	68	71	74	76	78	79	52	56	64	66	71	74	76	79	80	80	
	34	39	44	44	51	54	56	59	60	33	39	45	48	52	55	58	61	63	63	
Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m ² 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	28	34	33	37	41	44	46	48	48	24	28	34	33	37	41	44	46	48	48

DV110 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 385 m³/h air volume @100Pa



KEY FEATURES

- For use in dwellings up to 170m² *
- Up to 90% thermal efficiency and low SFP
- 'A' energy rating
- Internet control by smart phone, tablet or PC
- Triple filter design with two ISO Coarse > 75% (G4) and one ISO ePM1 50% (F7) filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Galvanised steel, double-skin casing
- BMS (Modbus / KNX) connection
- Optional LCD digital controller with four independent environmental profiles
- Optional manual four speed controller
- Auto cut-out switch for extra safety
- Optional built-in electric post-heater
- Optional smart frost protection
- Complies with Building Regulations and Passive House certified
- 5 year warranty+

DV110 Adroit (Integral CO₂ Sensor)

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.

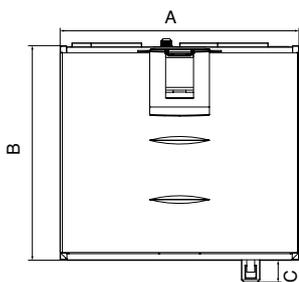


TECHNICAL DATA

Specification	DV110
Suitable for dwellings up to m ²	170
Max air flow (m ³ /h) / (l/s) at 100Pa.	370 / 103
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)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall / Ceiling
Sound power level @3m (dB(A))	58
Duct diameter (mm)	160 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Max. power consumption (W)	200
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)	64
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

*Complies with ISO 16890

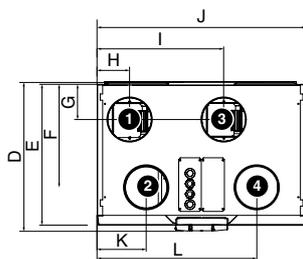
DIMENSIONS



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



Duct outlets, model L

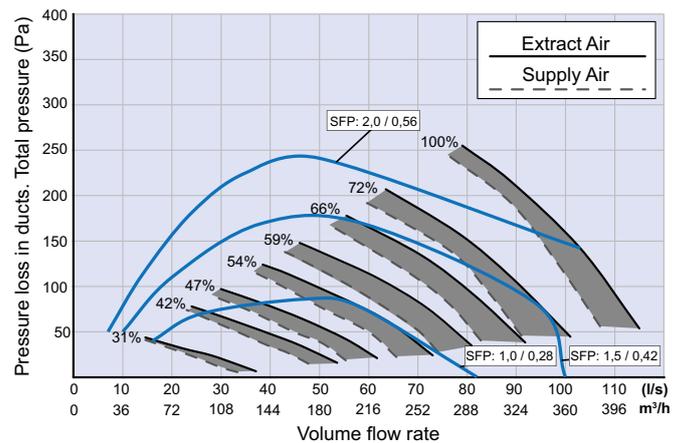
Inner diameter of female outlet collar ø 160 mm

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

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

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



* 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, Fireplace). 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

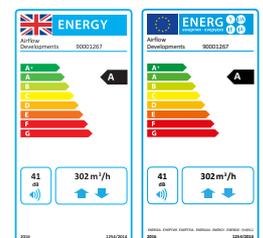
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

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
Ceiling Mounting Plate	90000717
Attic Roof Penetration Plate	90000719
Additional 900W Heater for DV96 (R)	90000616
Additional 900W Heater for DV96 (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



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 CO₂ Sensor)

Adroit Line Top Entry -
Up to 385 m³/h air volume @100Pa

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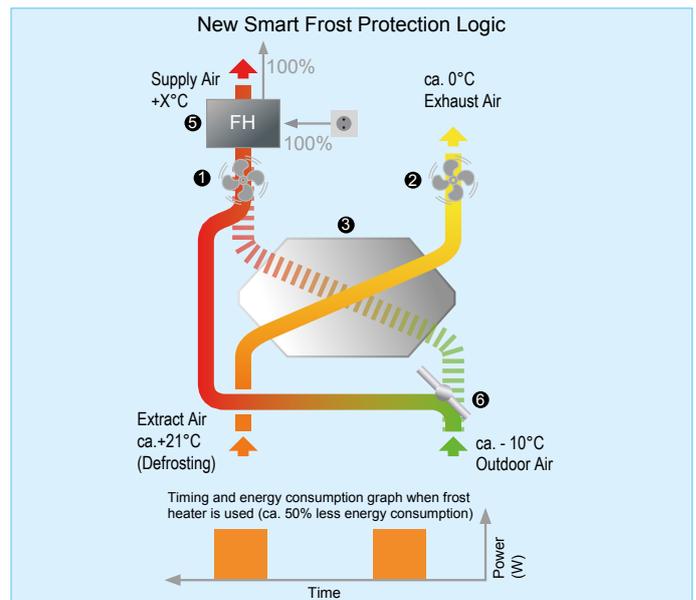
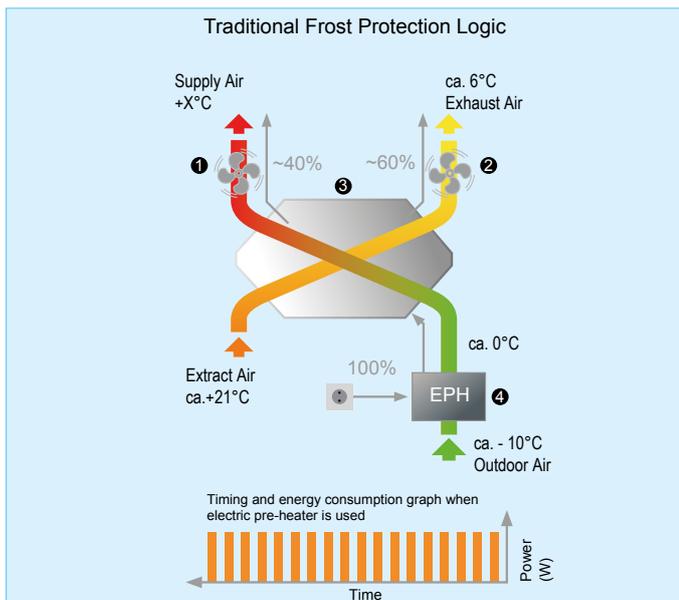
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NEW SMART FROST PROTECTION



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- 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**.

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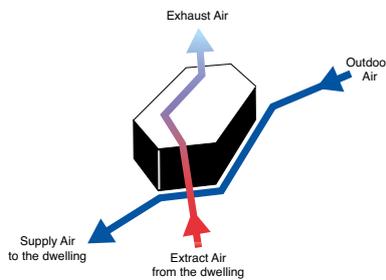


ISO Coarse > 75% (G4) filter

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 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)
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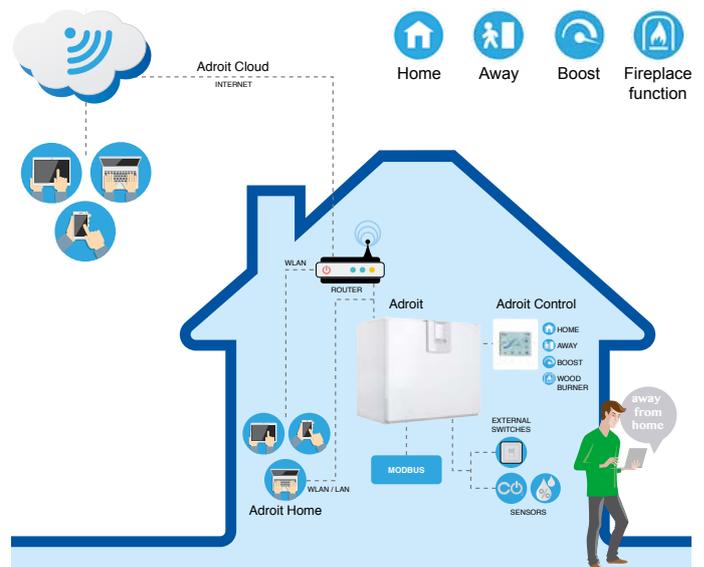
SAP RESULTS

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

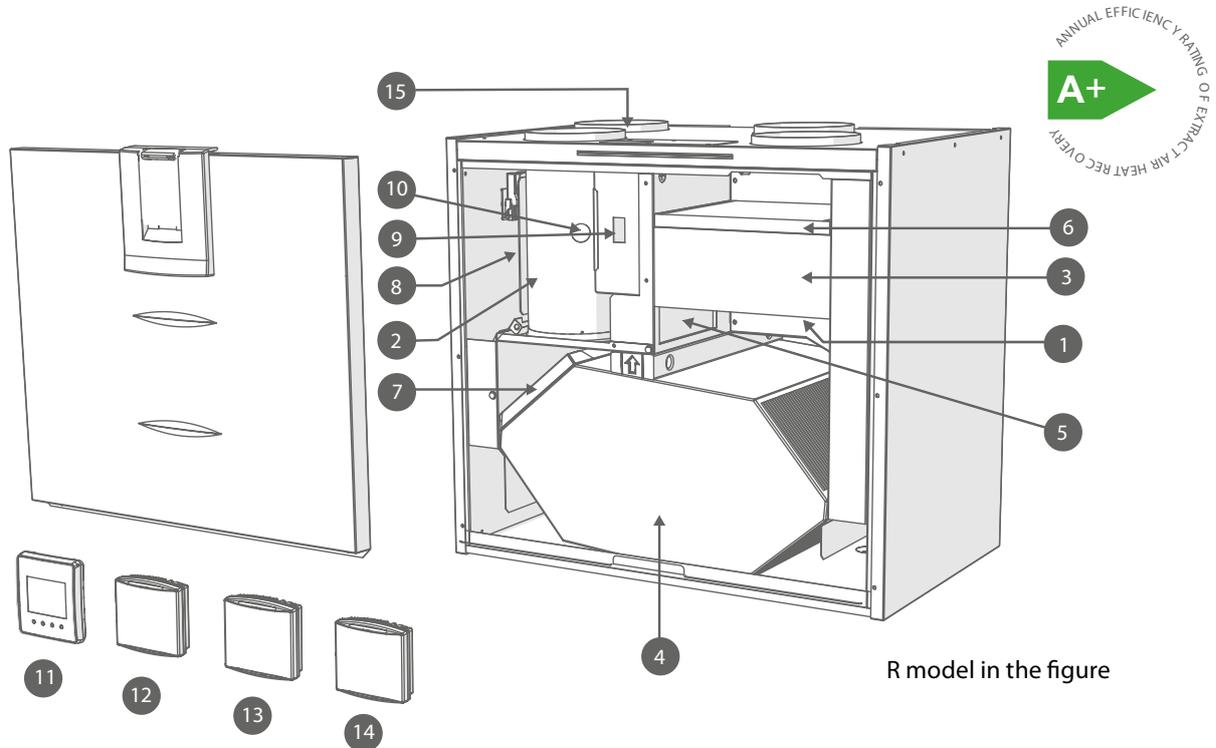
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
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Kitchen+5 additional wet rooms	1.4	88%



DV110 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 385 m³/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 CO₂ SENSOR

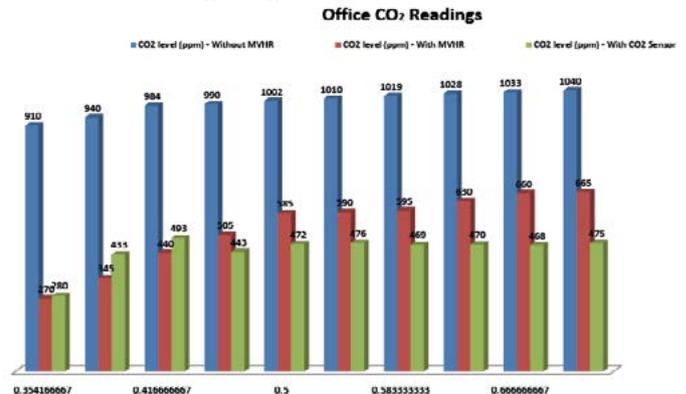
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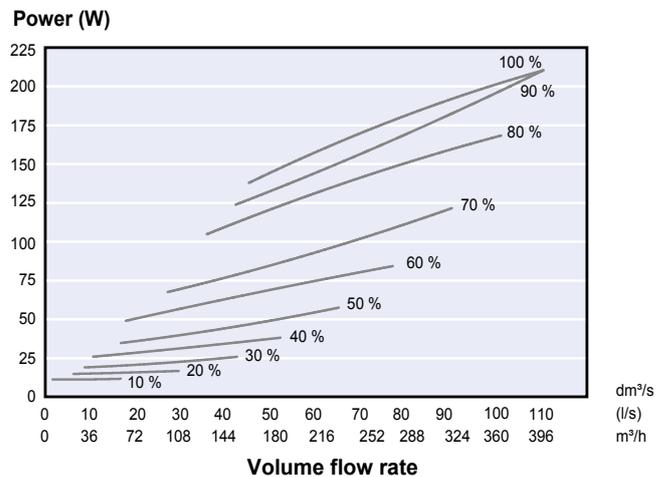
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CO ₂ level (ppm) - With CO ₂ Sensor	280	433	493	443	472	476	469	470	468	475

CO₂ sensor threshold is set to approx. 470ppm



FAN INPUT POWER



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (dm}^3\text{/s)}}$$

SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band L _w , dB										Sound power level in the extract air duct (one duct) by octave band L _w , 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	53	60	67	71	74	78	82	83	84	84	54	46	62	65	69	72	75	77	79	79
	125	48	56	61	66	70	74	76	78	80	80	42	44	50	53	58	61	64	66	68	68
	250	46	53	58	62	65	69	71	74	76	76	34	41	46	50	53	56	60	62	64	64
	500	40	48	56	57	60	62	65	67	68	69	26	35	40	43	46	49	52	55	57	57
	1000	31	42	50	55	58	61	64	65	67	67	18	28	34	38	41	45	47	50	52	51
	2000	18	32	40	46	52	56	60	62	64	64	13	17	24	29	33	36	39	42	44	44
	4000	17	20	30	38	44	49	53	56	59	59	17	17	18	19	21	24	27	31	33	33
8000	21	21	25	34	42	48	53	57	59	60	21	21	21	21	21	22	24	26	29	29	
L _w , dB		55	62	69	73	76	80	83	85	86	86	55	57	62	66	70	72	75	78	79	79
L _{WA} , dB(A)		41	49	46	60	63	67	69	72	73	73	33	38	43	46	50	53	56	59	60	60
Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m ² 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)		21	24	30	32	35	39	42	45	47	47	21	24	30	32	35	39	42	45	47	47

DV145 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 565 m³/h air volume @100Pa



KEY FEATURES

- For use in dwellings up to 250m² *
- Up to 90% thermal efficiency and low SFP
- 'A' energy rating
- Internet control by smart phone, tablet or PC
- Triple filter design with two ISO Coarse > 75% (G4) and one ISO ePM1 50% (F7) filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Galvanised steel, double-skin casing
- BMS (Modbus / KNX) connection
- Optional LCD digital controller with four independent environmental profiles
- Optional manual four speed controller
- Auto cut-out switch for extra safety
- Optional built-in electric post-heater
- Optional smart frost protection
- Complies with Building Regulations and Passive House certified
- 5 year warranty+

DV145 Adroit (Integral CO₂ Sensor)

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.

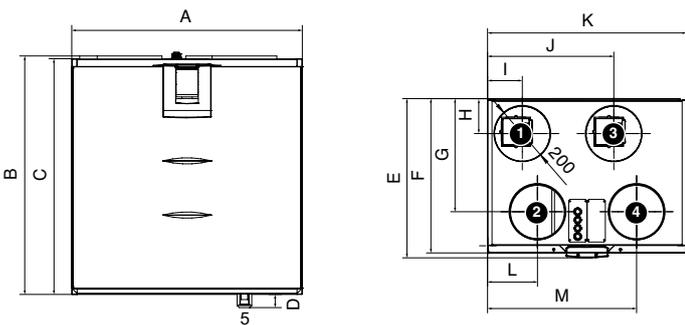


TECHNICAL DATA

Specification	DV145
Suitable for dwellings up to m ²	250
Max air flow (m ³ /h) / (l/s) at 100Pa.	542 / 151
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)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall / Floor
Sound power level @3m (dB(A))	50
Duct diameter (mm)	200 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230 V / 1 ph / 50 Hz
Max. power consumption (W)	310
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)	88
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

*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

Duct outlets, model L

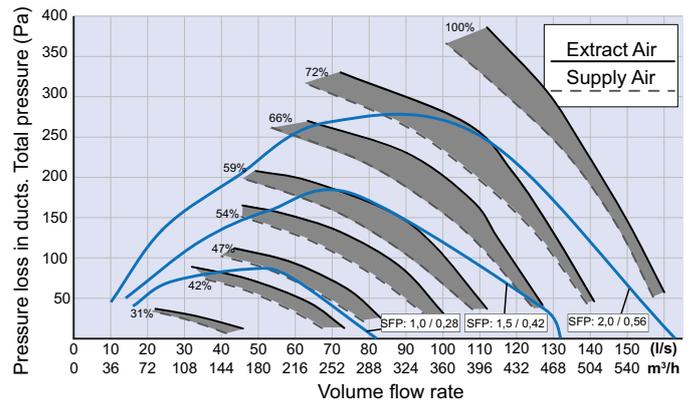
Inner diameter of female outlet collar ø 160 mm

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

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

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, Fireplace). 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

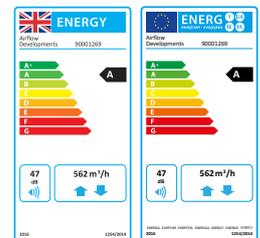
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

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
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



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 CO₂ Sensor)

Adroit Line Top Entry -

Up to 565 m³/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 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.

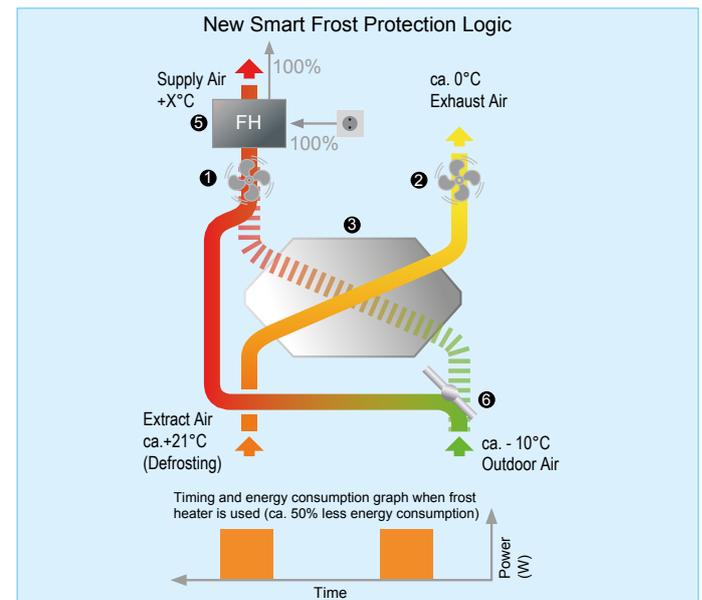
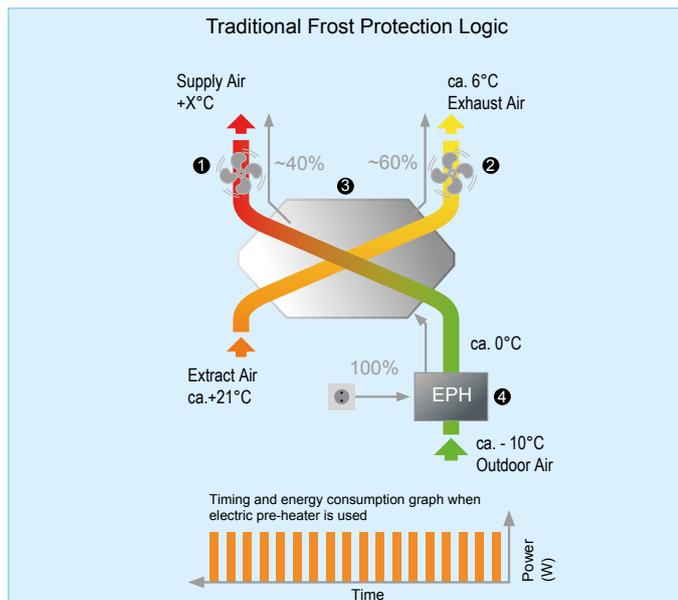
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information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



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.

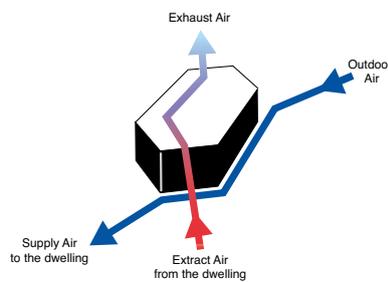


ISO Coarse > 75% (G4) filter

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 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 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

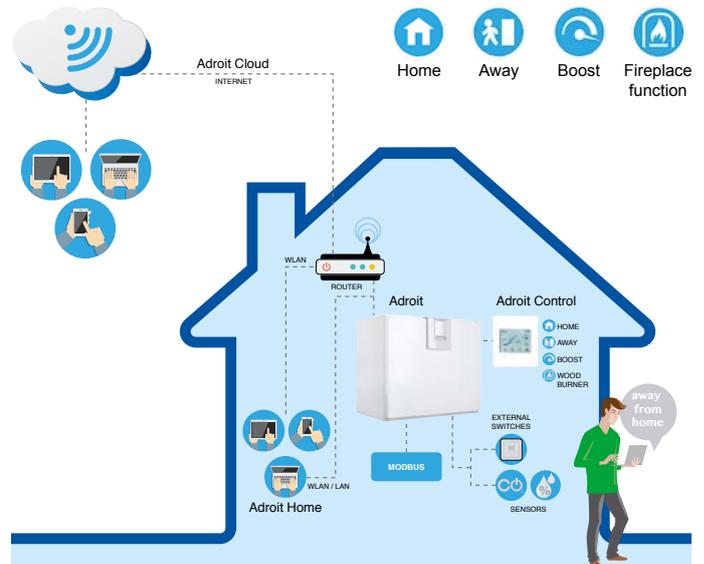
SAP RESULTS

Systems with rigid ductwork only SAP 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

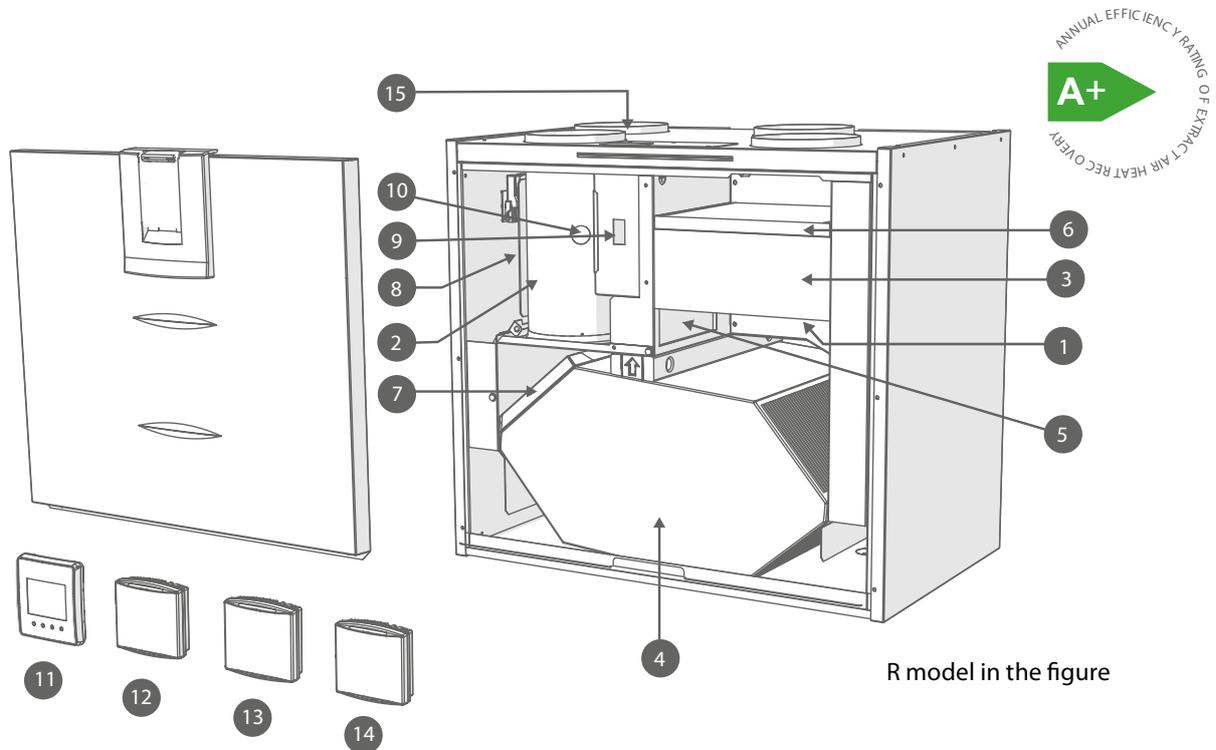
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	1.11	92%
Kitchen+2 additional wet rooms	1.05	92%
Kitchen+3 additional wet rooms	1.05	91%
Kitchen+4 additional wet rooms	1.19	90%
Kitchen+5 additional wet rooms	1.31	90%
Kitchen+6 additional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



DV145 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 565 m³/h air volume @100Pa

MAIN PARTS OF THE VENTILATION UNIT

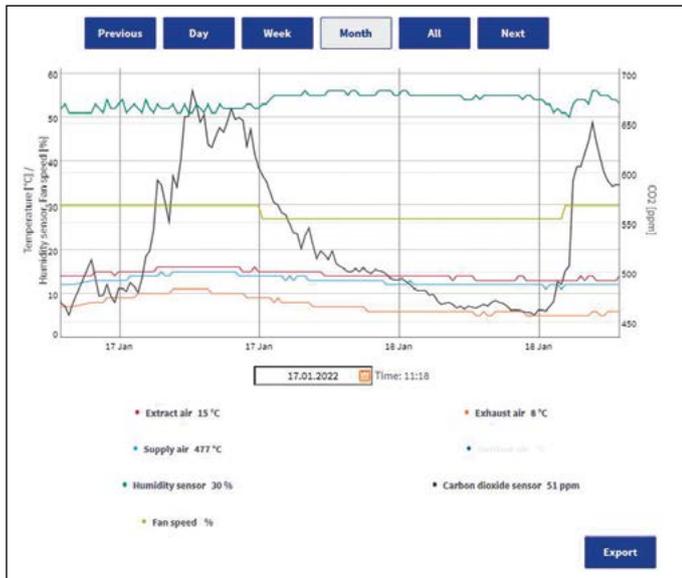


R model in the figure

- | | | | | | |
|--|--|---|---|----------------------------------|----|
|  | 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 CO₂ SENSOR

The Adroit range includes an internal carbon dioxide (CO₂) sensor as standard, 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. 1 year data log can help residents monitor the CO₂ levels. 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.



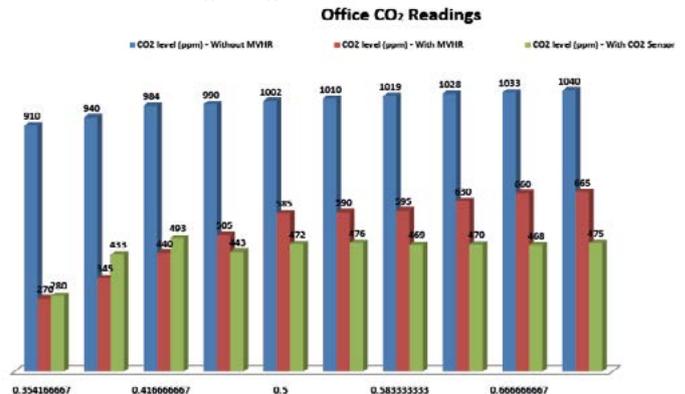
An experiment has been conducted in our offices, to understand CO₂ levels at different times and the impact an MVHR system with and without CO₂ sensor will have upon CO₂ levels.

SOUND VALUES

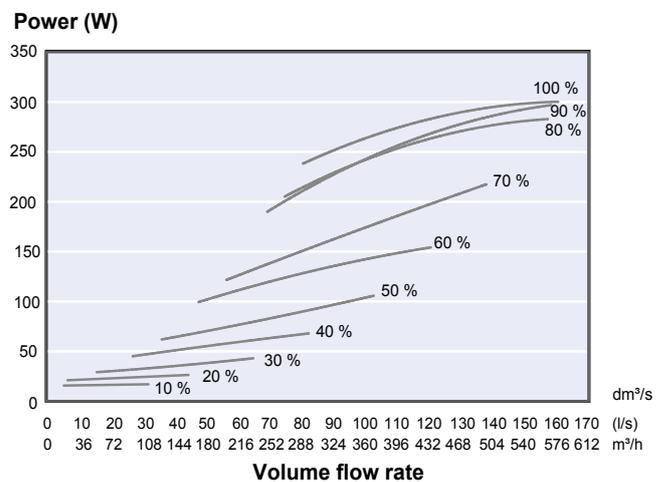
		Sound power level in the supply air duct (one duct) by octave band L _w , dB										Sound power level in the extract air duct (one duct) by octave band L _w , dB									
		Adjustment position										Adjustment position									
Adjustment position (%)		10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100
Medium frequency of the octave band Hz	63	55	66	73	76	80	83	85	86	87	87	53	58	63	67	73	78	78	79	80	79
	125	50	58	64	68	72	76	80	83	84	84	45	50	56	61	65	69	73	75	75	75
	250	52	57	63	65	68	72	74	77	78	78	40	39	44	49	54	57	60	63	64	64
	500	41	48	53	57	61	64	67	70	71	71	30	37	43	47	50	53	56	58	59	59
	1000	53	47	52	57	60	64	65	67	68	68	32	33	36	41	44	48	50	52	53	53
	2000	23	34	43	48	53	58	62	64	66	66	15	22	30	34	38	42	45	48	49	49
	4000	18	23	36	44	50	55	59	62	63	63	17	17	19	23	27	31	35	38	39	39
8000	21	22	28	39	47	54	58	62	63	63	21	21	21	22	24	28	32	35	36	36	
L _w , dB		59	68	74	77	81	84	86	88	90	89	54	59	64	68	74	79	79	80	81	81
L _{WA} , dB(A)		53	52	58	62	66	69	72	75	76	76	37	40	45	50	54	58	60	63	63	63
Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m ² sound absorption)																					
		Adjustment position																			
Adjustment position (%)		10	20	30	40	50	60	70	80	90	100										
L _{PA} , dB (A)		28	27	32	35	39	43	46	48	49	49										

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

CO₂ sensor threshold was set to approx. 470ppm



FAN INPUT POWER



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (dm}^3\text{/s)}}$$

DV245 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 950 m³/h air volume @100Pa



A+

Based on average climate with
a local demand control

KEY FEATURES

- For use in dwellings up to 400 m²*
- Up to 90% thermal efficiency and low SFP
- 'A+' energy rating
- Internet control by smart phone, tablet or PC
- Triple filter design with two ISO Coarse > 75% (G4) and one ISO ePM1 50% (F7) filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Galvanised steel, double-skin casing
- BMS (Modbus / KNX) connection
- Optional LCD digital controller with four independent environmental profiles
- Optional manual four speed controller
- Auto cut-out switch for extra safety
- Optional built-in electric post-heater
- Optional smart frost protection
- Complies with Building Regulations and Passive House certified
- 5 year warranty+

DV245 Adroit (Integral CO₂ Sensor)

With its powerful air volume capacity and high thermal efficiency the DV245 Adroit is suitable for large family houses. 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, aluminium heat exchanger and may be equipped with a range of optional accessories for higher performance.

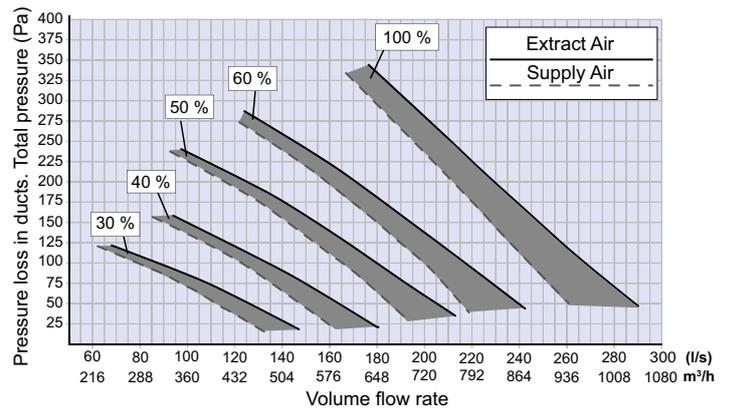


TECHNICAL DATA

Specification	DV245
Suitable for dwellings up to m ²	400
Max air flow (m ³ /h) / (l/s) at 100Pa.	929 / 258
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)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Floor
Sound power level @3m (dB(A))	53
Duct diameter (mm)	250 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230 V / 1 ph / 50 Hz
Max. power consumption (W)	314
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)	200
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

*Complies with ISO 16890

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, Fireplace). 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.

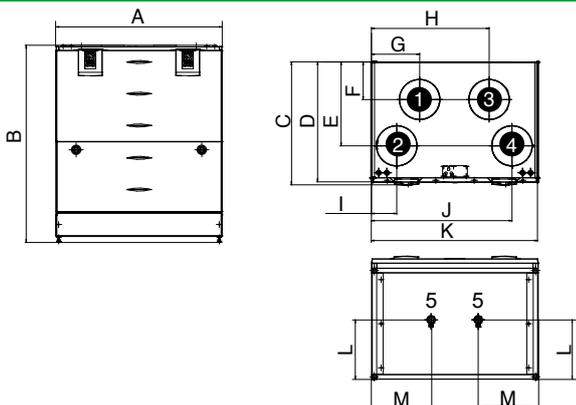
Adroit Speed Controller

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 (manual)	9041219
2 x Additional 1500W Heaters for DV245 (R + L)	90000630
Filter set (ISO Coarse > 75 % + ISO ePM, 50%, ISO Coarse > 75 %) (2xG4, 1xF7)	90000611
Boost Switch	90000542
KNX-Converter	90000723

DIMENSIONS



Duct outlets, Model R

Inner diameter of the female collar: 250mm

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: 250mm

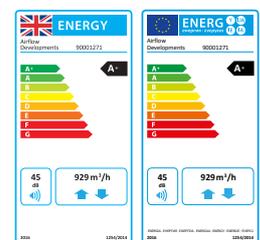
1. Outdoor air to the unit
2. Exhaust air flowing outdoors from the unit
3. Extract air from the apartment to the unit
4. Supply air from the unit to the apartment

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

Model	A	B	C	D	E	F	G
DV245	1038	1226-1241	773	754	528	237	301
	H	I	J	K	L	M	
	735	158	878	1038	373	371	

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



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 CO₂ Sensor)

Adroit Line Top Entry -
Up to 950 m³/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 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.

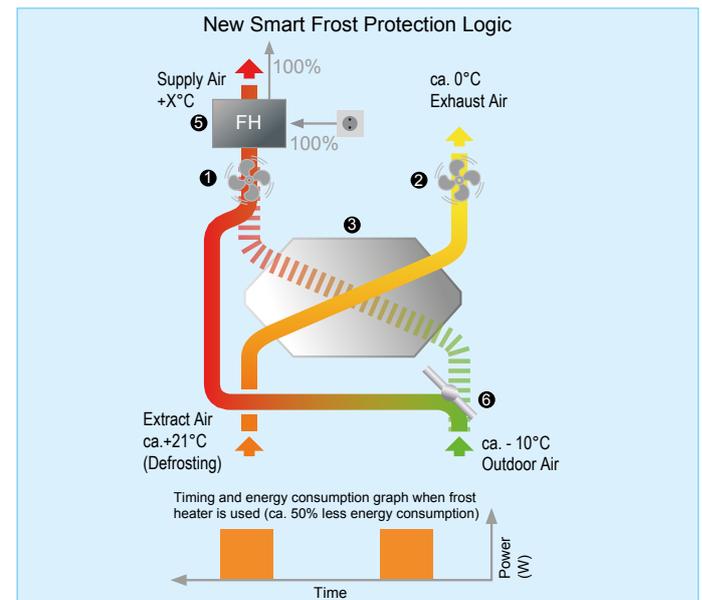
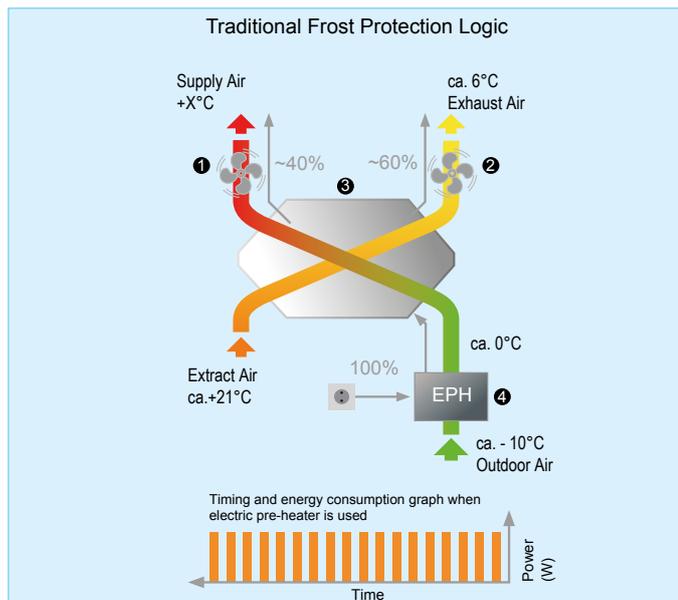
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information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



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

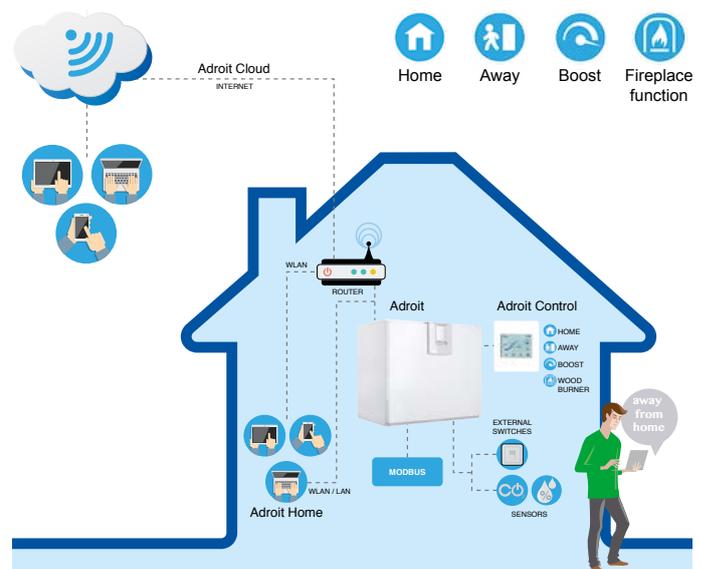
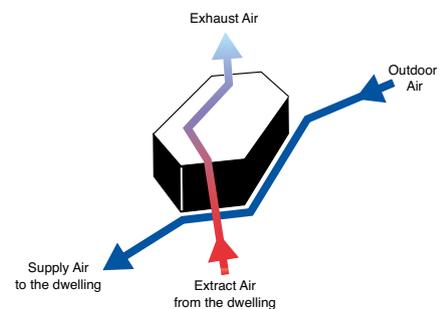
The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.

CONTROLS

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

Adroit DV245 is controlled via 4 ventilation profiles controls providing the following features:

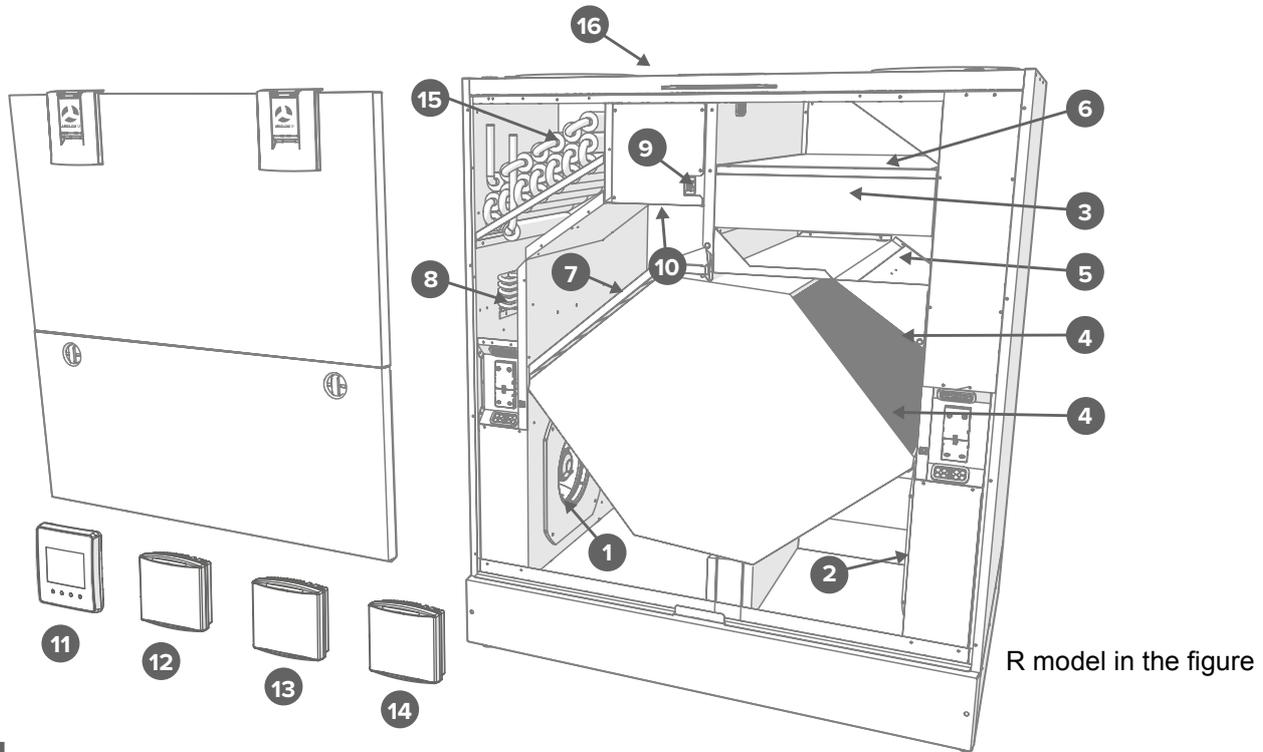
- **4 ventilation profiles**, 100% adjustable
- **Internet** connection available
- **Automatic boost function** with delay timer
- **Filter maintenance reminder** via counter clock (standard)
- **Heater control** for optional post-heater
- **Connection to BMS** via LON or KNX
- **Self diagnostic** via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



DV245 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 950 m³/h air volume @100Pa

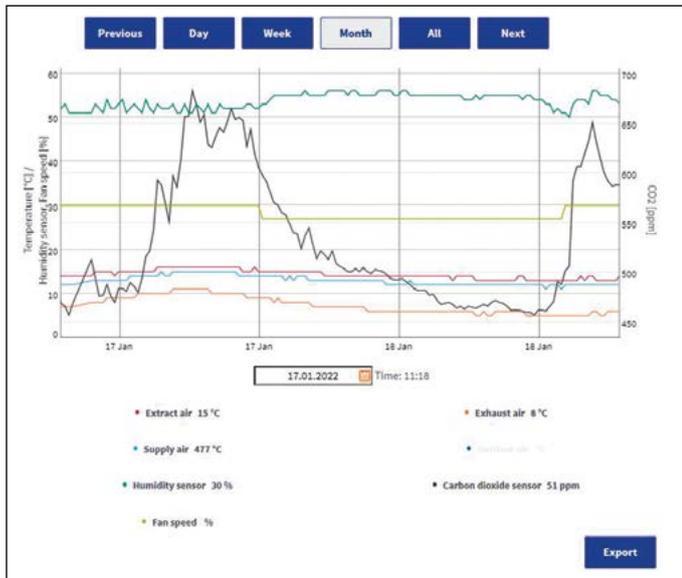
MAIN PARTS OF THE VENTILATION UNIT



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

BUILT-IN CO₂ SENSOR

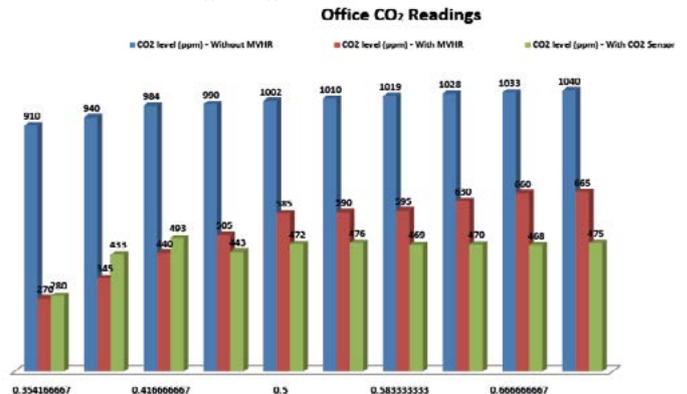
The Adroit range includes an internal carbon dioxide (CO₂) sensor as standard, to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. 1 year data log can help residents monitor the CO₂ levels. 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.



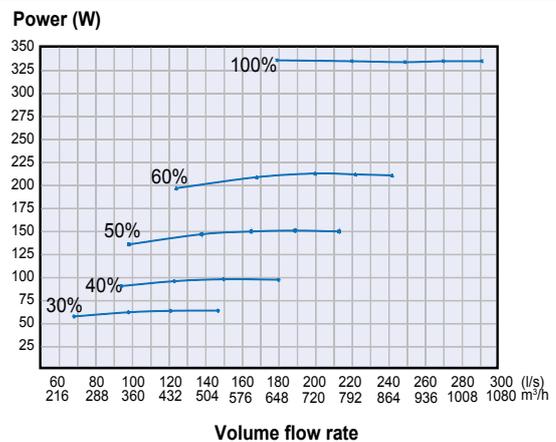
An experiment has been conducted in our offices, to understand CO₂ levels at different times and the impact an MVHR system with and without CO₂ sensor will have upon CO₂ levels.

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

CO₂ 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 , dB					Sound power level in the extract air duct (one duct) by octave band L _w , dB				
		Adjustment position					Adjustment position				
Adjustment position		30 %	40%	50%	60%	100%	30%	40%	50%	60%	100%
Air flow (l/s)		132	160	190	213	250	143	170	204	230	278
Air flow m ³ /h		475.2	576	684	766.8	900	514.8	612	734.4	828	1000.8
Medium frequency of the octave band Hz	63	66.1	69.3	72.1	73.8	77.0	53.6	56.7	60.0	62.7	66.3
	125	61.8	63.2	66.6	68.8	71.5	54.2	54.1	56.7	59.7	62.4
	250	56.0	62.1	63.9	66.6	69.9	50.9	58.4	60.7	64.1	65.5
	500	51.3	55.9	59.4	62.8	68.6	38.4	42.2	45.9	47.9	51.8
	1000	50.5	54.7	58.1	60.7	64.0	37.4	41.1	44.8	47.5	50.7
	2000	49.2	54.0	58.0	60.8	64.4	31.5*	36.2*	40.5	43.4	47.1
	4000	35.6*	42.4	48.0	51.8	56.7	24.7*	28*	30.3*	33.6*	38.1
	8000	28.1*	36.3	44.3	48.8	54.2	23.6*	23.8*	24.6*	25.9*	28.2*
L _w , dB		68.0	71.2	74.1	76.1	79.4	58.0	61.6	64.4	67.4	70.0
L _{WA} , dB(A)		56.0	60.4	64.0	66.9	71.1	45.5	50.2	53.4	57.0	59.3
Sound pressure level, in decibels (A) coming through the envelope from the room in which the unit is installed (10m ² sound absorption) ADJUSTMENT POSITION / AIR FLOWS (supply/extract)											
Adjustment position		30%		40%		50%		60%		100%	
Air flow (l/s)		132/148		159/179		192/214		214/243		251/282	
Air flow m ³ /h		475.2/532.8		572.4/644.4		691.2/770.4		770.4/874.8		903.6/1015.2	
L _{pA1} , dB (A)		37.1		39.2		42.0		44.5		48.4	

DV50 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 195 m³/h air volume @100Pa



KEY FEATURES

- For use in dwellings up to 80m² *
- Up to 90% thermal efficiency and low SFP
- 'A' energy rating
- Internet control by smart phone, tablet or PC
- Triple filter design with two ISO Coarse > 75% (G4) and one ISO ePM1 50% (F7) filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Galvanised steel, double-skin casing
- BMS (Modbus / KNX) connection
- Optional LCD digital controller with four independent environmental profiles
- Optional manual four speed controller
- Auto cut-out switch for extra safety
- Optional built-in electric post-heater
- Optional smart frost protection
- Complies with Building Regulations and Passive House certified
- 5 year warranty+

DV50 Adroit (Integral CO₂ Sensor)

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) filter 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.

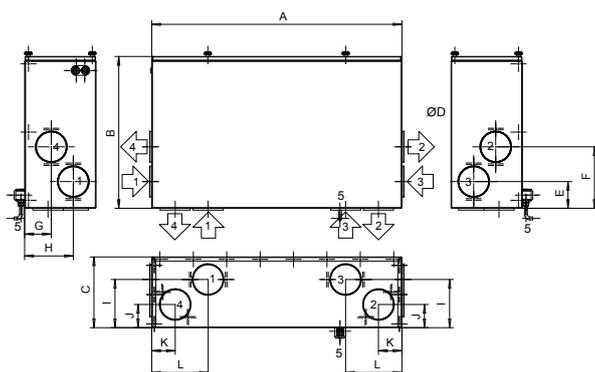


TECHNICAL DATA

Specification	DV50
Suitable for dwellings up to m ²	80
Max air flow (m ³ /h) / (l/s) at 100Pa.	187 / 52
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)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Ceiling
Sound power level @3m (dB(A))	49
Duct diameter (mm)	100 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230 V / 1 ph / 50 Hz
Max. power consumption (W)	97
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)	45
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

*Complies with ISO 16890

DIMENSIONS



Model R

Inner diameter of female outlet collar ø100mm

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

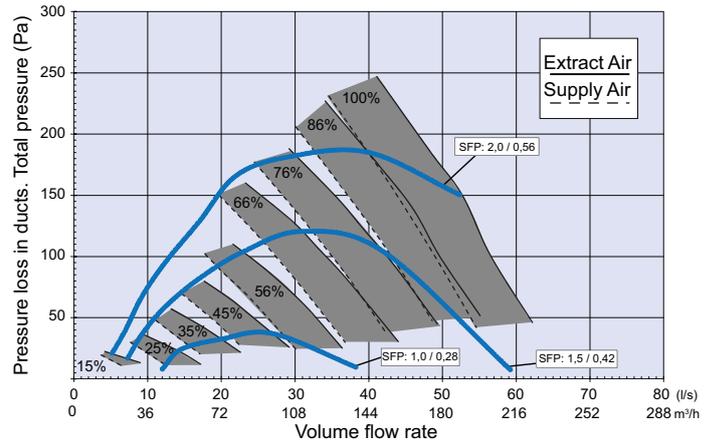
Model L

Inner diameter of female outlet collar ø100mm

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
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, Fireplace). 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

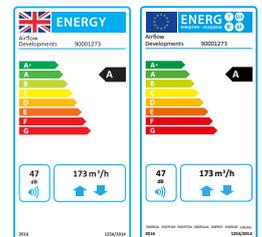
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

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 900W heater for DV50 (R)	90000626
Additional 900W heater for DV50 (L)	90000627
Filter set (ISO Coarse > 75 % + ISO ePM, 50%, ISO Coarse > 75 %)	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



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 CO₂ Sensor)

Adroit Line Top Entry -
Up to 195 m³/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 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.

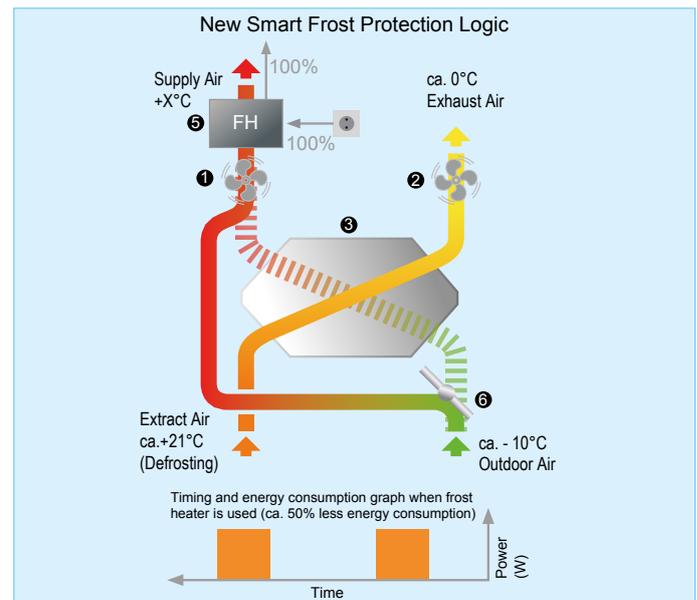
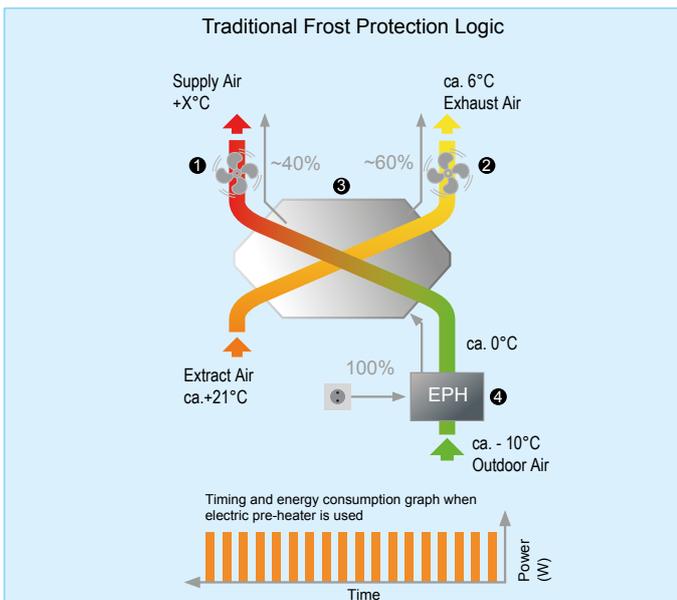
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information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



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



ACCESSIBILITY

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.



Easy access to replace filters

Heat Recovery

Removable, secure front cover panel for maintenance

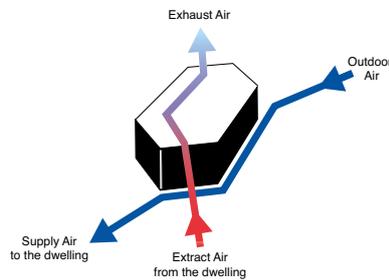
Removable Heat Exchanger for quick cleaning

Durable steel double skin casing with 20mm insulation



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

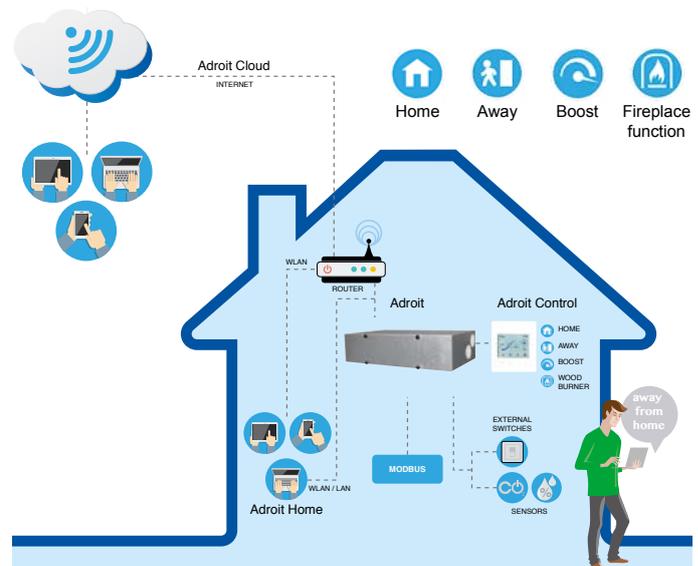
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.99	80%
Kitchen+2 additional wet rooms	1.21	80%
Kitchen+3 additional wet rooms	1.51	82%
Kitchen+4 additional wet rooms	1.86	82%

CONTROLS

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

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

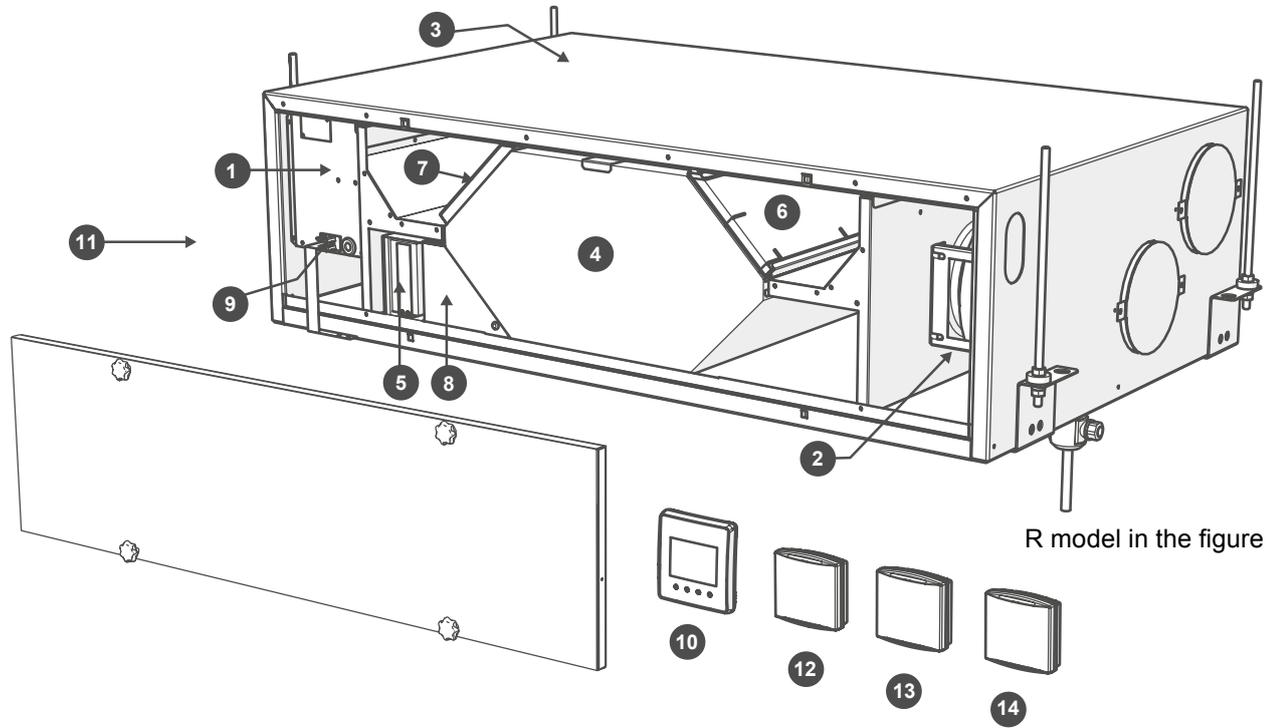
- **4 ventilation profiles**, 100% adjustable
- **Internet** connection available
- **Automatic boost function** with delay timer
- **Filter maintenance reminder** via counter clock (standard)
- **Heater control** for optional post-heater
- **Connection to BMS** via LON or KNX
- **Self diagnostic** via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



DV50 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 195 m³/h air volume @100Pa

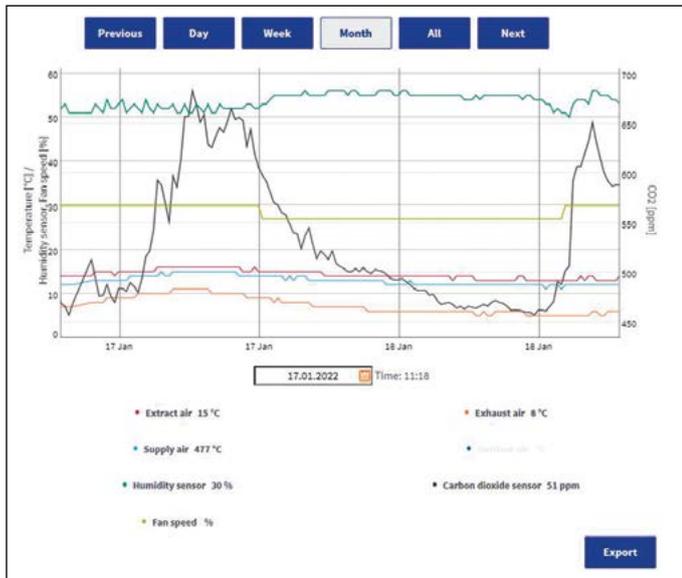
MAIN PARTS OF THE VENTILATION UNIT



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

BUILT-IN CO₂ SENSOR

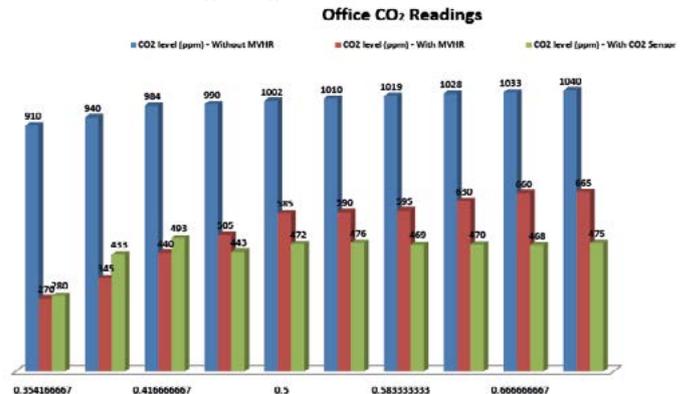
The Adroit range includes an internal carbon dioxide (CO₂) sensor as standard, to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. 1 year data log can help residents monitor the CO₂ levels. 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.



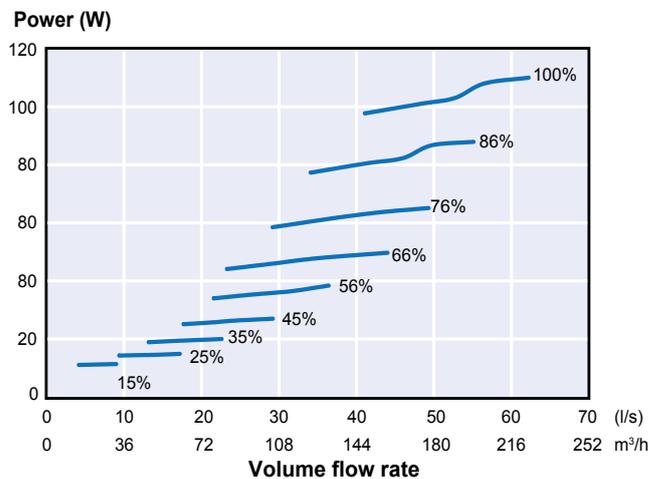
An experiment has been conducted in our offices, to understand CO₂ levels at different times and the impact an MVHR system with and without CO₂ sensor will have upon CO₂ levels.

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

CO₂ sensor threshold is set to approx. 470ppm



FAN INPUT POWER



SOUND VALUES

	Sound power level in the supply air duct (one duct) by octave band L _w , dB									Sound power level in the extract air duct (one duct) by octave band L _w , 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 (dm ³ /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	
LW, dB	62	67	71	74	76	80	80	81	83	59	62	65	69	71	77	75	77	79	
LWA, 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 ² sound absorption) Adjustment position / air flows (supply/extract) dm ³ /s																			
Adjustment position (%)	10	20	30	40	50	60	70	80	100										
Air flow (dm ³ /s)	6/7	12/14	19/22	22/25	27/30	31/34	35/40	41/45	44/48										
LpA, dB (A)	23.8	28.8	34.6	38.4	40.4	44.6	46.7	48.9	50.2										

DV80 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 299 m³/h air volume @100Pa



KEY FEATURES

- For use in dwellings up to 120 m²*
- Up to 90% thermal efficiency and low SFP
- 'A' energy rating
- Internet control by smart phone, tablet or PC
- Triple filter design with two ISO Coarse > 75% (G4) and one ISO ePM1 50% (F7) filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Galvanised steel, double-skin casing
- BMS (Modbus / KNX) connection
- Optional LCD digital controller with four independent environmental profiles
- Optional manual four speed controller
- Auto cut-out switch for extra safety
- Optional built-in electric post-heater
- Optional smart frost protection
- Complies with Building Regulations and Passive House certified
- 5 year warranty+

Adroit DV80 (Integral CO₂ Sensor)

With its powerful air volume capacity and high thermal efficiency the DV80 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 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.

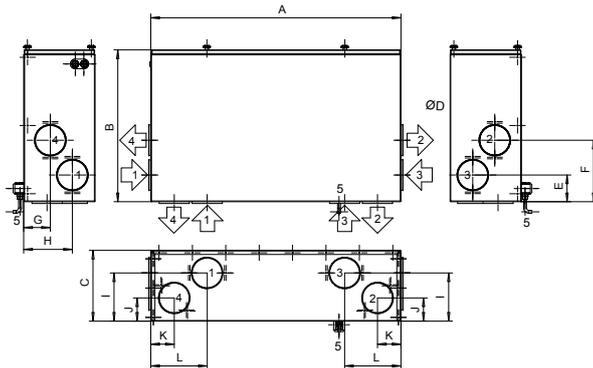


TECHNICAL DATA

Specification	DV80
Suitable for dwellings up to m ²	120
Max air flow (m ³ /h) / (l/s) at 100Pa.	285 / 79
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)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Ceiling
Sound power level @3m (dB(A))	52
Duct diameter (mm)	125 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230 V / 1 ph / 50 Hz
Max. power consumption (W)	158
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)	59
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

*Complies with ISO 16890

DIMENSIONS



Model R

Inner diameter of female outlet collar ø125mm

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

Model L

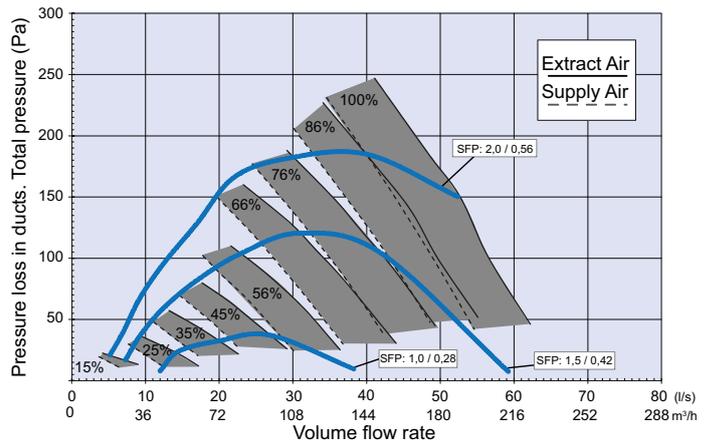
Inner diameter of female outlet collar ø125mm

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
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, Fireplace). 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

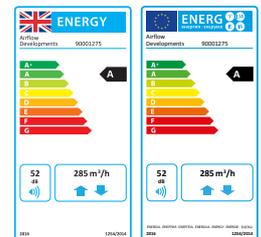
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

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 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



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 CO₂ Sensor)

Adroit Line Top Entry -
Up to 299 m³/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 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.

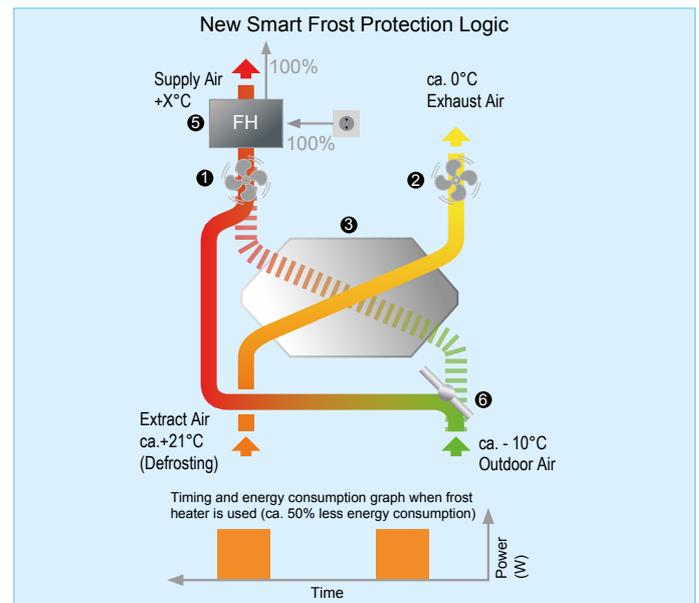
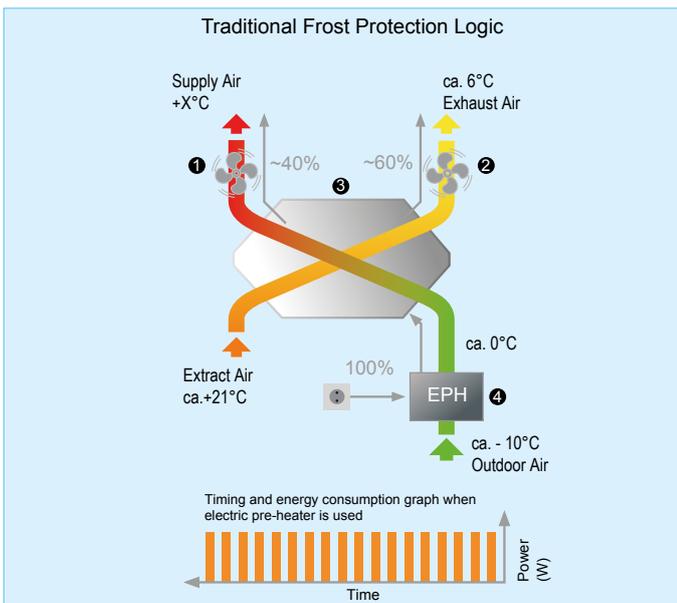
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information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



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



ACCESSIBILITY

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.



Easy access to replace filters

Heat Recovery

Removable, secure front cover panel for maintenance

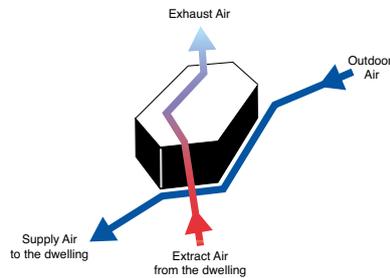
Removable Heat Exchanger, for quick cleaning

Durable steel double skin casing with 20mm insulation



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

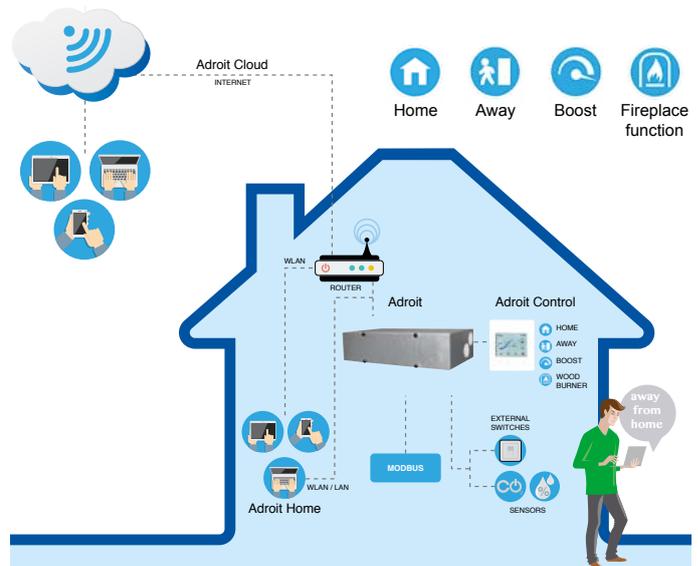
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.81	90%
Kitchen+2 additional wet rooms	0.94	91%
Kitchen+3 additional wet rooms	1.14	90%
Kitchen+4 additional wet rooms	1.38	89%
Kitchen+5 additional wet rooms	1.63	89%
Kitchen+6 additional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

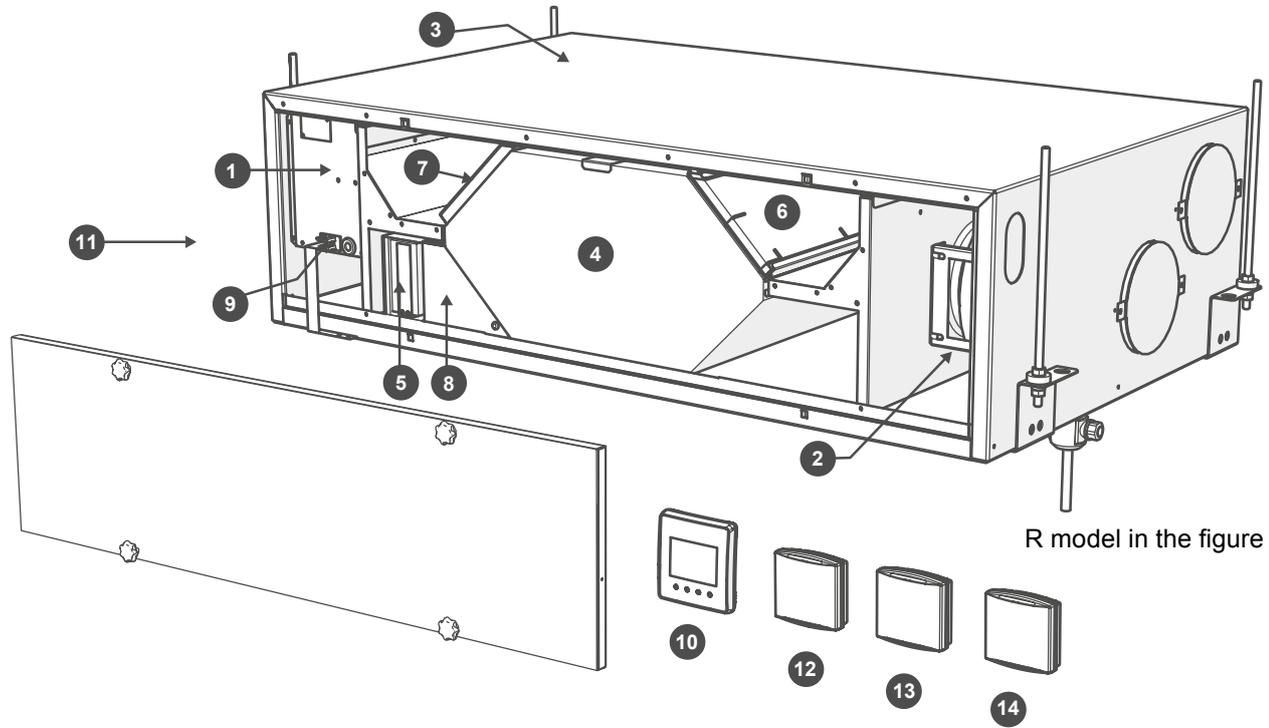
- **4 ventilation profiles**, 100% adjustable
- **Internet** connection available
- **Automatic boost function** with delay timer
- **Filter maintenance reminder** via counter clock (standard)
- **Heater control** for optional post-heater
- **Connection to BMS** via LON or KNX
- **Self diagnostic** via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



DV80 Adroit (Integral CO₂ Sensor)

Adroit Line Top Entry -
Up to 299 m³/h air volume @100Pa

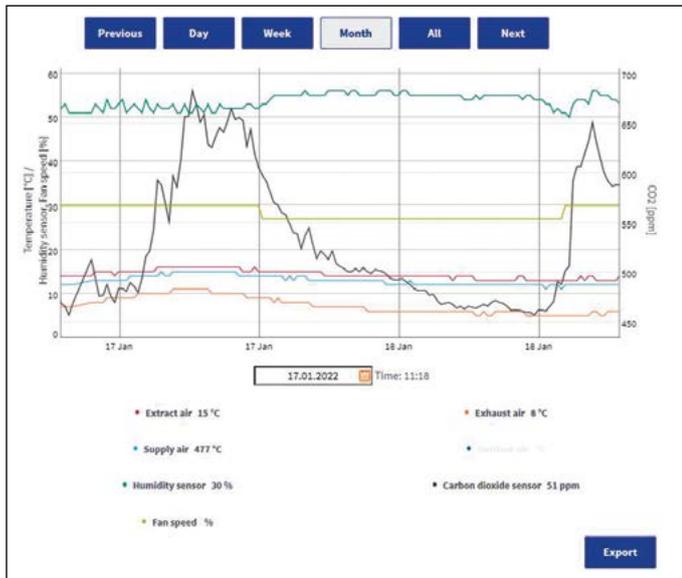
MAIN PARTS OF THE VENTILATION UNIT



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

BUILT-IN CO₂ SENSOR

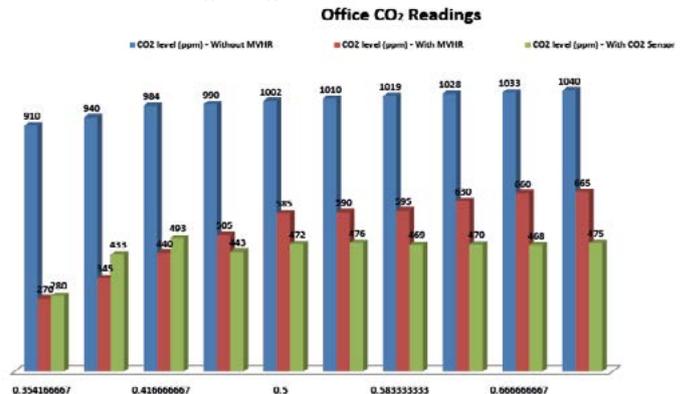
The Adroit range includes an internal carbon dioxide (CO₂) sensor as standard, to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. 1 year data log can help residents monitor the CO₂ levels. 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.



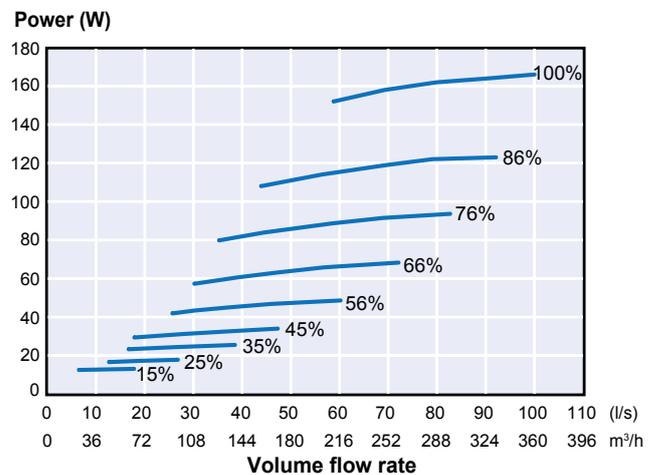
An experiment has been conducted in our offices, to understand CO₂ levels at different times and the impact an MVHR system with and without CO₂ sensor will have upon CO₂ levels.

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

CO₂ sensor threshold was set to approx. 470ppm



FAN INPUT POWER



SOUND VALUES

Adjustment position (%)	Sound power level in the supply air duct (one duct) by octave band L _w , dB										Sound power level in the extract air duct (one duct) by octave band L _w , dB										
	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 (dm³/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	
LW, dB	61	70	72	75	77	82	82			81	55	61	64	65	68	78	72			74	
LWA, 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 (10m² sound absorption)																					
Adjustment position / Air flow (supply/extract) dm³/s																					
Adjustment position (%)	10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100	
Air flow (dm³/s)	15/17	33/39	32/36	38/42	47/51	19/20	62/67			65/67											
LpA, dB (A)	26.9	33.2	40	43.1	46.3	49.7	51.5			52.1											

DV280, DV380 and DV580 Adroit Pro

Premium Top Entry MVHR Unit



KEY FEATURES

- For use in dwellings up to 250 m²*
- 3 models (top entry) up to 565 m³/h at 100Pa
- Plastic counterflow heat exchanger
- Up to 95% thermal efficiency and low SFP
- A+ energy rating
- Sandwich casing construction with 30 mm thermal insulation
- Up to 95% thermal efficiency
- Automatic, 100% summer bypass
- Versatile design (automatic switch between right / left configurations)
- Two types of control systems available
- Optional constant flow/pressure function
- Optional pre or post-heater
- Complies with Building Regulations and ErP standards
- 5 year warranty+

DV280, DV380 and DV580 Adroit Pro

The DV280, DV380 and DV580 Adroit Pro are highly efficient top entry Mechanical Ventilation with Heat Recovery (MVHR) units that can ventilate up to 565 m³/h. They are wall mounted units and are delivered complete with a full condensate drain kit.

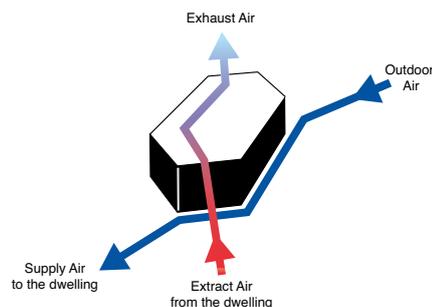
The Adroit Pro is made with galvanised steel, double skin casing with 30 mm thick insulation to eliminate thermal bridging and minimise noise levels.

These Adroit Pro units include an easily removable, plastic heat exchanger that can recover up to 95% of otherwise wasted heat. This recovered heat is transferred to the incoming supply air before it is filtered and supplied to the dwelling, which can reduce ongoing heating bills of the property. At no point do the airstreams mix.



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.

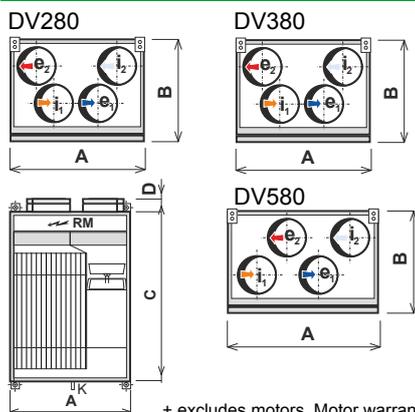


TECHNICAL DATA

Specification	DV280 Adroit Pro	DV380 Adroit Pro	DV580 Adroit Pro
Suitable for dwellings up to (m ²)	100	170	250
Max air flow (m ³ /h) / (l/s) at 100Pa.	285 / 79	365 / 101	565 / 157
Thermal efficiency (%)	94	95	94
Heat exchanger	Counterflow (Plastic)	Counterflow (Plastic)	Counterflow (Plastic)
Fans	EC	EC	EC
Summer bypass damper	100% automatic	100% automatic	100% automatic
Frost protection	Reducing supply air	Reducing supply air	Reducing supply air
Controllers	Touch or Rotary	Touch or Rotary	Touch or Rotary
Connection to BMS*	Modbus (TCP/IP)	Modbus (TCP/IP)	Modbus (TCP/IP)
Mounting	Wall	Wall	Wall
Sound Power Level (dB(A))	35	36	42
Duct Diameter (mm)	160 (4 ports)	160 (4 ports)	200 (4 ports)
Condensate discharge (mm)	16	16	16
Electrical supply	230 V / 1 ph / 50 Hz	230 V / 1 ph / 50 Hz	230 V / 1 ph / 50 Hz
Max. Power Consumption (W)	118	192	345
Filter Class**	2x Coarse 60% (G4) [optional ePM1 55% (F7)]	2x Coarse 60% (G4) [optional ePM1 55% (F7)]	2x Coarse 60% (G4) [optional ePM1 55% (F7)]
Built-in Electric pre-heater (optional) (W)	650	990	1300
Ducted Electric pre-heater (optional) (W)	900 / 1500	1500	2100 / 3000
Built-in Electric post-heater (optional) (W)	250	500	500
Ducted Electric post-heater (optional) (W)	900 / 1500	1500	2100 / 3000
Protection class	IP34	IP34	IP34
Casing insulation (mm)	30	30	30
Weight (kg)	59	59	75
Dimensions (L x D x H) (mm)	617 x 490 x 1000	617 x 490 x 1000	928 x 509 x 1080
Duct Entry	Top Entry	Top Entry	Top Entry
Versions available			
Adroit Pro Web with Touch controller	90000635	90000636	90000637
Adroit Pro Web with Rotary controller	90000673	90000676	90000678
Adroit Pro Basic with Touch controller	90000674	90000665	90000679
Adroit Pro Basic with Rotary controller	90000675	90000677	90000680

*Only for units with Adroit Pro Web control system
**Complies with ISO 16890

DIMENSIONS



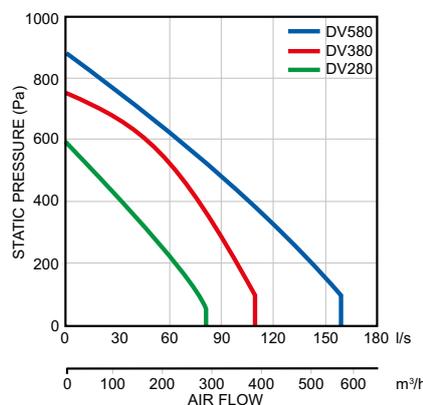
Duct Connections

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

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

Model	A	B	C	D
DV280 Adroit Pro (mm)	617	490	1000	60
DV380 Adroit Pro (mm)	617	490	1000	60
DV580 Adroit Pro (mm)	928	509	1080	60

PERFORMANCE



* Guidance only. Dependant upon system pressure.

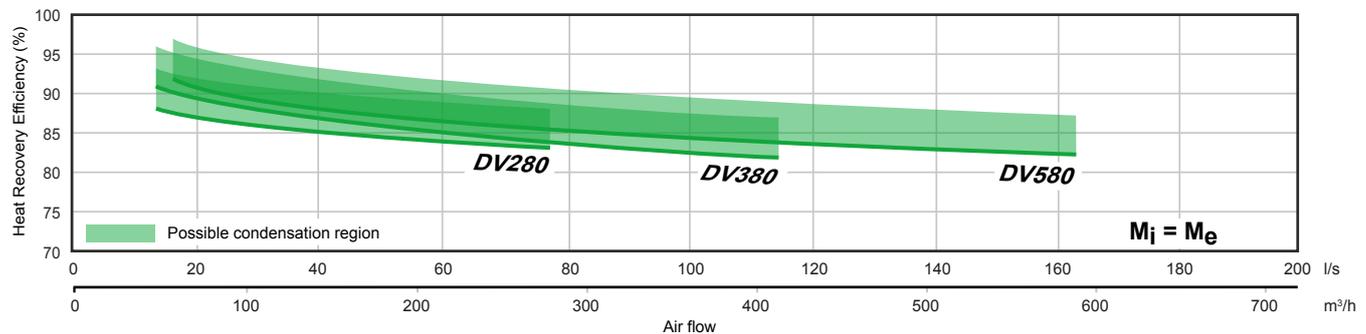
ACCESSORIES

See Duplexvent accessories for more details.

DV280, DV380 and DV580 Adroit Pro

Premium Top Entry MVHR Unit

PERFORMANCE



CONTROLS

There are two types of control systems available for Adroit Pro units:

- Adroit Pro Web control system, which is internet and BMS capable solution to meet requirements of the most advanced systems.
- Adroit Pro Basic control system, which is simpler solution for controlling the basic functions of the unit.

Adroit Pro Web control system

Main features:

- Two types of controllers available: Touch or Rotary controller
- Internet connectivity which enables unit control and monitoring from a remote location via laptop, tablet or smart phone
- BMS connection
- Daily / Weekly programme setting
- Automatic boost function with timer delay (via volt-free contact or 0-10V sensor output)
- Automatic frost protection reduces the supply ventilation rate for a certain period to prevent ice build-up within the heat recovery cell depending on the outside air temperature
- Automatic, 100% summer bypass prevents overheating the dwelling in summer season.
- Demand ventilation via CO₂, humidity and air quality sensors
- Versatile design (automatic switch between right / left configurations)
- Zonal ventilation control
- Constant flow / pressure control
- Heater control for pre or post-heater
- Filter monitoring and alert via pressure sensors



WB1 Touch controller



WB2 Rotary controller



Adroit Pro Basic control system

Main features:

- Two types of controllers available: Touch or Rotary controller
- Automatic or manual mode
- Analogue signal 0-10V (RH%, air quality sensors)
- Automatic frost protection reduces the supply ventilation rate for a certain period to prevent ice build-up within the heat recovery cell depending on the outside air temperature
- Automatic, 100% summer bypass prevents overheating the dwelling in summer season
- Heater control for pre or post-heater
- Filter change reminder



BC1 Touch controller



BC2 Rotary controller

INTERNET CONNECTION*

Adroit Pro units incorporate an Internet server to provide a connection between the ventilation unit and the internet via a standard plug and play Ethernet cable.

This allows you to monitor and control the unit from a laptop, tablet or smartphone via internet or local area network. The unit can be also monitored remotely by technical service which saves time and cost on service processes.

*Only for units with Adroit Pro Web control system



HEATERS

The new generation PTC (Positive Temperature Coefficient) electric heater incorporates a power adjustment facility which automatically increases/decreases the power based on the air volume going through the heater hence shortens the heating response.

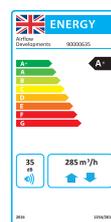


Also the heater has two protection thermostats and a perforated metal filter which can easily be maintained via the inspection door. This significantly increases its life span especially when the heater is installed on the outdoor air side for frost protection purposes. Alternatively it can be used as post-heater to achieve the required indoor air temperature.

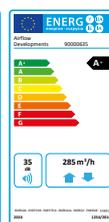
CERTIFICATION

All Adroit Pro units meet the 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

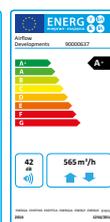
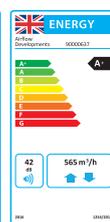
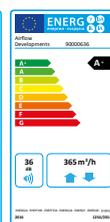
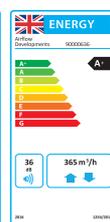
DV280



DV380



DV580



DV170 / DV370 / DV570 Adroit Pro

Premium Side Entry MVHR Unit



KEY FEATURES

- For use in dwellings up to 250 m²*
- 3 models (side entry) up to 570 m³/h at 100Pa
- Plastic counterflow heat exchanger
- Up to 95% thermal efficiency and low SFP
- A+ energy rating
- Sandwich casing construction with 30mm thermal insulation
- Automatic, 100% summer bypass
- Versatile design (automatic switch between right / left configurations)
- Two types of control systems available
- Optional constant flow / pressure function
- Optional pre or post-heater
- Complies with Building Regulations and ErP standards
- 5 year warranty+

Adroit Pro DV170 / DV370 / DV570

The DV170, DV370 and DV570 Adroit Pro are highly efficient side entry Mechanical Ventilation with Heat Recovery (MVHR) units that can ventilate up to 570 m³/h. They are ceiling mounted unit and are delivered complete with a full condensate drain kit.

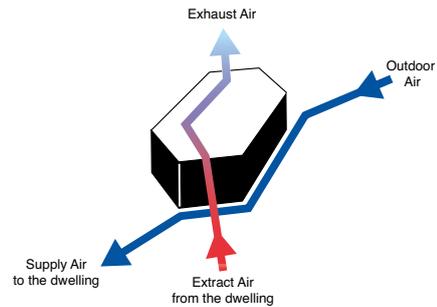
The Adroit Pro is made with galvanised steel, double skin casing with 30 mm thick insulation to eliminate thermal bridging and minimise noise levels.

These Adroit Pro units include an easily removable, plastic heat exchanger that can recover up to 95% of otherwise wasted heat. This recovered heat is transferred to the incoming supply air before it is filtered and supplied to the dwelling, which can reduce ongoing heating bills of the property. At no point do the airstreams mix.



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.

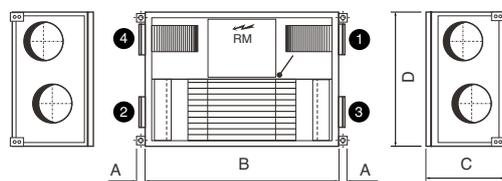


TECHNICAL DATA

Specification	DV170 Adroit Pro	DV370 Adroit Pro	DV570 Adroit Pro
Suitable for dwellings up to m ₂	100	170	250
Max air flow (m ³ /h) / (l/s) at 100Pa.	175 / 49	370 / 103	570 / 158
Thermal efficiency (%)	94	95	94
Heat exchanger	Counterflow (Plastic)	Counterflow (Plastic)	Counterflow (Plastic)
Fans	EC	EC	EC
Summer bypass damper	100% automatic	100% automatic	100% automatic
Frost protection	Reducing supply air	Reducing supply air	Reducing supply air
Controllers	Touch or Rotary	Touch or Rotary	Touch or Rotary
Connection to BMS*	Modbus (TCP / IP)	Modbus (TCP / IP)	Modbus (TCP / IP)
Mounting	Ceiling	Ceiling	Ceiling
Sound Power Level (dB(A))	37	38	42
Duct Diameter (mm)	160 (4 ports)	200 (4 ports)	250 (4 ports)
Condensate discharge (mm)	16 (2 drain options available)	16 (2 drain options available)	16 (2 drain options available)
Electrical supply	230 V / 1 ph / 50 Hz	230 V / 1 ph / 50 Hz	230 V / 1 ph / 50 Hz
Max. Power Consumption (W)	79	167	313
Filter Class**	2x Coarse 60% (G4) [optional ePM1 55% (F7)]	2x Coarse 60% (G4) [optional ePM1 55% (F7)]	2x Coarse 60% (G4) [optional ePM1 55% (F7)]
Built-in Electric pre-heater (optional) (W)	650	990	1300
Ducted Electric pre-heater (optional) (W)	900 / 1500	2100	3000
Built-in Electric post-heater (optional) (W)	250	500	500
Ducted Electric post-heater (optional) (W)	900 / 1500	1500	3000
Protection class	IP34	IP34	IP34
Casing insulation (mm)	30	30	30
Weight (kg)	39	58	72
Dimensions (L x D x H) (mm)	840 x 655 x 290	1116 x 930 x 290	1290 x 930 x 370
Duct Entry	Side Entry	Side Entry	Side Entry
Versions available			
Adroit Pro Web with Touch controller	90000638	90000639	90000640
Adroit Pro Web with Rotary controller	90000681	90000684	90000708
Adroit Pro Basic with Touch controller	90000682	90000685	90000666
Adroit Pro Basic with Rotary controller	90000683	90000686	90000784

*Only for units with Adroit Pro Web control system
**Complies with ISO 16890

DIMENSIONS



Right hand connections

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

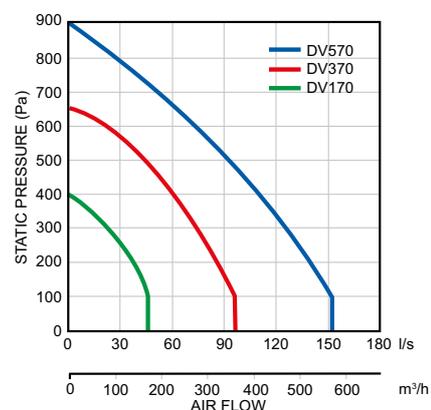
Left hand connections

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

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

Model	A	B	C	D
DV170 Adroit Pro (mm)	60	840	290	655
DV370 Adroit Pro (mm)	60	1116	290	930
DV570 Adroit Pro (mm)	60	1290	370	930

PERFORMANCE



* Guidance only. Dependant upon system pressure.

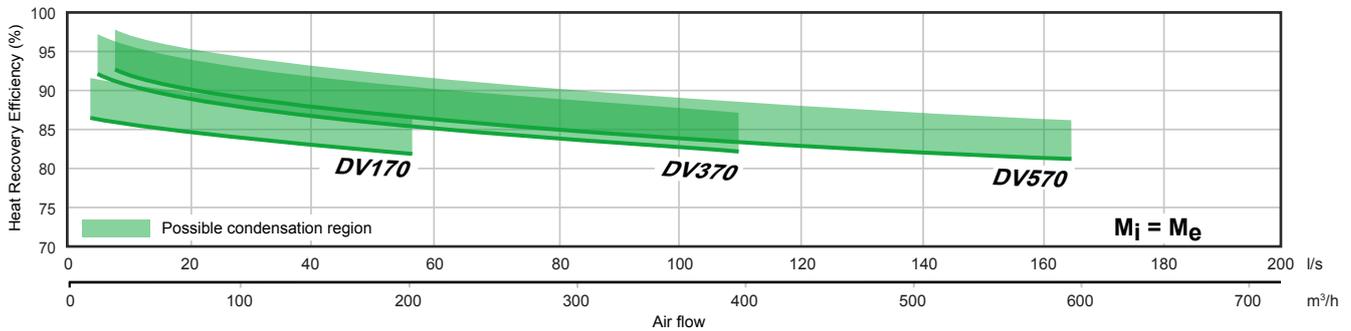
ACCESSORIES

See Duplexvent accessories for more details.

DV170 / DV370 / DV570 Adroit Pro

Premium Side Entry MVHR Unit

PERFORMANCE



CONTROLS

There are two types of control systems available for Adroit Pro units:

- Adroit Pro Web control system, which is internet and BMS capable solution to meet requirements of the most advanced systems.
- Adroit Pro Basic control system, which is simpler solution for controlling the basic functions of the unit.

Adroit Pro Web control system

Main features:

- Two types of controllers available: Touch or Rotary controller
- Internet connectivity which enables unit control and monitoring from a remote location via laptop, tablet or smart phone
- BMS connection
- Daily / Weekly programme setting
- Automatic boost function with timer delay (via volt-free contact or 0-10V sensor output)
- Automatic frost protection reduces the supply ventilation rate for a certain period to prevent ice build-up within the heat recovery cell depending on the outside air temperature
- Automatic, 100% summer bypass prevents overheating the dwelling in summer season.
- Demand ventilation via CO₂, humidity and air quality sensors
- Versatile design (automatic switch between right / left configurations)
- Zonal ventilation control
- Constant flow / pressure control
- Heater control for pre or post-heater
- Filter monitoring and alert via pressure sensors



WB1 Touch controller



WB2 Rotary controller



Adroit Pro Basic control system

Main features:

- Two types of controllers available: Touch or Rotary controller
- Automatic or manual mode
- Analogue signal 0-10V (RH%, air quality sensors)
- Automatic frost protection reduces the supply ventilation rate for a certain period to prevent ice build-up within



BC1 Touch controller



BC2 Rotary controller

the heat recovery cell depending on the outside air temperature

- Automatic, 100% summer bypass prevents overheating the dwelling in summer season
- Heater control for pre or post-heater
- Filter change reminder

INTERNET CONNECTION*

Adroit Pro units incorporate an Internet server to provide a connection between the ventilation unit and the internet via a standard plug and play Ethernet cable.

This allows you to monitor and control the unit from a laptop, tablet or smartphone via internet or local area network. The unit can be also monitored remotely by technical service which saves time and cost on service processes.

*Only for units with Adroit Pro Web control system



HEATERS

The new generation PTC (Positive Temperature Coefficient) electric heater incorporates a power adjustment facility which automatically increases/decreases the power based on the air volume going through the heater hence shortens the heating response.

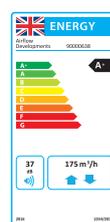


Also the heater has two protection thermostats and a perforated metal filter which can easily be maintained via the inspection door. This significantly increases its life span especially when the heater is installed on the outdoor air side for frost protection purposes. Alternatively it can be used as post-heater to achieve the required indoor air temperature.

CERTIFICATION

All Adroit Pro units meet the 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

DV170



DV370



DV570



Duplexvent Range Overview

Residential Heat Recovery

	Entro-V Range (Top entry)			Entro-H Range (Side entry)		
Model	DV65	DV82	DV130	DV250	DV300	DV400
						
Airflow m³/h / l/s @100Pa	242 / 67.2	300 / 83.3	460 / 127.7	230 / 64	300 / 83	385 / 107
Thermal efficiency	Up to 90%			Over 90%		
Fans	EC			EC		
Automatic summer bypass	Standard			Standard		
Frost protection via heater	Optional			Optional		
Frost protection via supply air reduction	Standard			Standard		
Standard control	4-speed (manual)			100% variable (manual)		
Alternative control	4-speed (digital)			10-speed (digital)		
Boost with delay timer	Optional			Optional		
Maintenance indicator	Standard			Optional		
Weekly ventilation programming	Optional			Optional		
BMS connection	Standard			Optional		
Integrated web server	-			Optional		
Mounting	Floor / Wall			Floor / Wall / Ceiling		
Filter class - ISO 16890 compliant	2 x Coarse 55% (G4) optional ISO ePM1 60% (F7)			2 x Coarse 60% (G4) optional ePM1 55% (F7)		
Post-heater	Optional			Optional		
Warranty*	2 years			2 years		
SAP eligible	✓			✓		
Passive House Institute certified	-			✓		

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



Duplexvent Range Overview

Residential Heat Recovery

	ADROIT LINE (TOP ENTRY)					ADROIT LINE (SIDE ENTRY)		
Model	DV51CH	DV96	DV110	DV145	DV245	DV50	DV80	
								
Airflow m³/h / l/s @100Pa	170 / 47	320 / 89	370 / 105	542 / 151	929 / 258	187 / 52	285 / 79	
Thermal efficiency	Up to 83%		Over 90%					
Fans	EC							
Automatic summer bypass	Standard							
Frost protection via heater	Optional							
Frost protection via supply air reduction	Standard							
Standard control	Cloud							
Alternative control	Digital or 4-speed manual							
Boost with delay timer	Standard							
Maintenance indicator	Standard							
Weekly ventilation programming	Standard							
BMS connection	Standard							
Integrated web server	Standard							
Mounting	Wall	Wall / Ceiling		Wall / Floor	Floor	Ceiling		
Filter class - ISO 16890 compliant	2 x ISO Coarse > 75% (G4) and 1 x ISO ePM1 50% (F7)							
Post-heater	Optional							
Warranty*	5 years							
SAP eligible	✓							
Passive House Institute certified	-						✓	

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

Duplexvent Range Overview

Residential Heat Recovery

	ADROIT PRO (TOP ENTRY)			ADROIT PRO (SIDE ENTRY)		
Model	DV280	DV380	DV580	DV170	DV370	DV570
						
Air flow m³/h / l/s @ 100Pa	285 / 79	365 / 107	565 / 157	175 / 49	370 / 103	570 / 158
Thermal efficiency	Over 90%					
Fans	EC					
Automatic summer bypass	Standard					
100% summer bypass	Standard					
Frost protection via heater	Optional					
Frost protection via supply Air reduction	Standard					
Standard Control	Digital					
Alternative Control	Manual					
Boost with delay timer	Standard					
Maintenance indicator	Standard					
Weekly ventilation programming	Standard					
BMS connection	Standard*					
Integrated web server	Standard*					
Mounting	Wall			Under - Ceiling		
Filter class - ISO 16890 compliant	2 x Coarse 60% (G4) optional ePM1 55% (F7)					
Post-heater	Optional					
Warranty	5 years*					

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

* only for units with web control system



Duplexvent Residential Accessories

Part No.	Description	Product Image	Unohab	DV65 DV82 DV130	DV250 DV300 DV400	DV51CH DV96 DV110 DV145 DV245 DV50 DV80	DV170 DV280 DV370 DV380 DV570 DV580
Controllers - Switches - Sensors							
Boost switch							
9000228	Manual boost (1-way)		⊙	⊙	⊙	⊙	⊙
Electrical humidistat							
9041570	30-90% RH (volt-free output)		⊙	⊙	⊙	⊙	⊙
Manual control switch							
90000992	Unohab controller		⊗	-	-	-	-
Manual control switch							
90001308	Entro-V Basic controller		-	⊙	-	-	-
Digital controller							
90001299	Entro-V Digital controller		-	⊙	-	-	-
Manual control switch							
90000408	BC2 Rotary controller; 100% adjustable		-	-	⊙	-	⊙
Digital controller							
90000409	BC1 Touch controller; Touch screen panel		-	-	⊙	-	⊙
Manual control switch							
90000789	WB2 Rotary controller		-	-	-	-	⊙
Digital controller							
90000710	WB1 Touch controller		-	-	-	-	⊙
Manual control switch							
9041219	4-speed, 100% adjustable		-	-	-	⊙	-
Digital controller							
90000610	4-speed, 100% adjustable		-	-	-	⊙	-

Duplexvent Residential Accessories

Part No.	Description	Product Image	Unohab	DV65 DV82 DV130	DV250 DV300 DV400	DV51CH DV96 DV110 DV145 DV245 DV50 DV80	DV170 DV280 DV370 DV380 DV570 DV580
Controllers - Switches - Sensors							
Room humidity sensor							
90000320	Room RH (0-10 V output)						
Duct humidity sensor							
90000313	Duct RH (0-10 V output)						
Room CO₂ sensor							
90000166	Room CO ₂ (0-10 V output)						
Duct CO₂ sensor							
90000165	Duct CO ₂ (0-10 V output)						
Room air quality sensor							
90000321	Room air quality (0-10 V output)						
Pressure sensor							
90000326	For filter monitoring						
Room humidity sensor							
90000612	Adroit humidity transmitter						
Room CO₂ sensor							
90000613	Adroit CO ₂ transmitter						

Duplexvent Residential Accessories

Part No.	Description	Product Image	Unohab	DV65 DV82 DV130	DV250 DV300 DV400	DV51CH DV96 DV110 DV145 DV245 DV50 DV80	DV170 DV280 DV370 DV380 DV570 DV580
Filters - ISO 16890 compliant							
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)		-	-	-	⊙	-
90000765	10 x Coarse 60% (G4) filter cloths (DV280 / DV380 Adroit Pro)			-	-	-	-
90000767	10 x Coarse 60% (G4) filter cloths (DV580 Adroit Pro)	-		-	-	-	⊙
90000759	10 x Coarse 60% (G4) filter cloths (DV170 Adroit Pro)	-		-	-	-	⊙
90000761	10 x Coarse 60% (G4) filter cloths (DV370 Adroit Pro)	-		-	-	-	⊙
90000763	10 x Coarse 60% (G4) filter cloths (DV570 Adroit Pro)	-		-	-	-	⊙

Duplexvent Residential Accessories

Part No.	Description	Product Image	DV65 DV82 DV130	DV250 DV300 DV400	DV51CH DV96 DV110 DV145 DV245 DV50 DV80	DV170 DV280 DV370 DV380 DV570 DV580
Heaters						
Electric duct heater						
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 (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)		⊙	-	-	-
Electric duct heater						
90000413	160 mm, 0.4kW		-	⊙	-	-
90000414	160 mm, 0.7kW		-	⊙	-	-
90000415	160 mm, 1.7kW		-	⊙	-	-
Electric duct heater						
90000162	125 mm, 0.9kW		-	-	-	⊙
90000163	160 mm, 1.5kW		-	-	-	⊙
90000156	200 mm, 2.1kW		-	-	-	⊙
90000173	250 mm, 3.0kW		-	-	-	⊙
Other components						
KNX-Converter						
90000723	For BMS connection (KNX)		-	-	⊙	-
Metal casing						
90000345	Galvanised metal casing (DV250)		-	⊙	-	-
Ceiling mounting plate						
90000716	(DV96 Adroit)		-	-	⊙	-
90000717	(DV110 Adroit)		-	-	⊙	-
Floor stand						
90000722	(DV145) Adroit		-	-	⊙	-

Air Flow Solutions

DUPLEXVENT® FLEXI



Mechanical Ventilation with Heat Recovery Creates a healthier living and working environment while contributing to the overall reduction of a building's carbon emissions. Up to 93% thermal efficiency with versatile unit positioning.



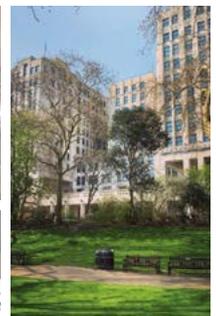
- Large plastic cross-counter flow heat exchanger with high efficiency more than 90%
- Energy saving, maintenance-free EC fans with low SFP and constant air flow volume control
- Compact unit - universally usable as horizontal or ceiling mounted, outside air intake right or left
- Easy maintenance through large access doors where filters, heat exchanger and fans can be easily removed
- Automatic, temperature controlled summer bypass, where the heat exchanger is covered 100%
- Frost protection via reduction of air flow volume of the supply air fan
- Supply air filter ePM1 55% (F7) and exhaust air filter ePM10 50% (M5) as standard. Filter monitoring via differential pressure. - ISO 16890 compliant
- Electronic 10-step digital controller with LCD display
- User control via internet connection
- Optional sensors (humidity, air quality, CO₂) are available for on demand ventilation
- Shut-off dampers and flexible connectors are available as accessory
- Fulfils VDI 6022 hygiene standard

PASSIVE HOUSE

Significant advantages for specifiers to consider as part of a buildings BREEAM assessment and also for larger Passive House developments.



CASE STUDIES



For further information see Commercial Heat Recovery

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