

# Comfort Cooling Kit

for DV145 Adroit



## KEY FEATURES

- Maintains a healthy indoor environment through high-performance filtration and fresh cool air supply
- Enhanced summer comfort via an eco-friendly water coil solution
- Compatible with air-source heat pumps (ASHP)
- Features automatic 100% summer bypass and cool recovery for optimal seasonal performance
- Triple filter design including high-efficiency ePM1 50% supply filter
- Smart built-in controls, accessible via smartphone, tablet, or PC
- Helps to meet Approved Document O compliance by reducing overheating risk

The Comfort Cooling kits are available with our premium Adroit DV145 MVHR units, providing an effective solution for projects that require additional cooling support. MVHR unit not included in the kit. These units are ideal for domestic and residential applications with a maximum floor area of up to 120 m<sup>2</sup> (based on 1 ACH at ~50% fan speed).

Adroit controls feature an automatic 100% modulating summer bypass and a dedicated Cool Recovery mode to maintain comfortable indoor conditions during warmer periods. When outdoor air is hotter than both the extract air and the desired supply temperature, the system uses the cooler extract air to reduce the temperature of the incoming supply air. In this mode, the unit actively recovers coolness from the home, improving comfort and overall energy efficiency.





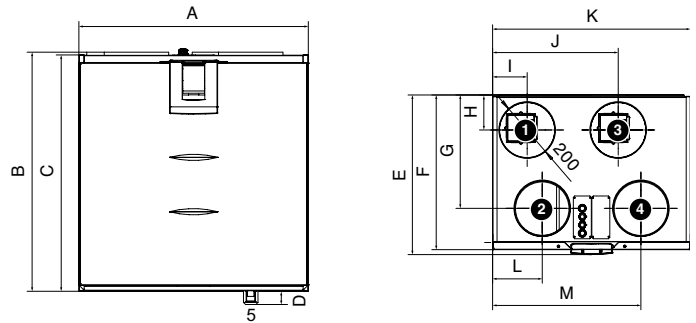
## TECHNICAL SPECIFICATION

90002288 Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa Max cooling capacity (kW) * EAN	Adroit DV145 Comfort Cooling Kit 576 / 160 5.1 5019009338644
Specification	Adroit DV145 MVHR Unit
Suitable for dwellings up to m <sup>2</sup>	250
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa	576 / 160
Thermal efficiency (%)	Over 90
Heat exchanger	Cross-Counter-Flow (Plastic)
Fans	EC
Summer by-pass damper	100% automatic
Integral humidity sensor (RH %)	0 - 100
Integral CO <sub>2</sub> sensor (ppm)	500 - 2000
Frost protection (optional heater)	Smart Frost Protection Strategy
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall / Floor
Sound pressure level @3m (dB(A))	26
Duct diameter (mm)	200 (4 ports)
Condensate discharge	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	302
Filter Class**	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	2400 (900 + 1500)
Protection class	IP34
Casing insulation (mm)	20
Weight (kg)	76
Dimensions (L x D x H) (mm)	717 x 578 x 748
Duct entry	Top Entry
Versions available:	
Right Hand:	90001269
With optional electric post-heater:	90001269EPH
Left Hand:	90001270
With optional electric post-heater:	90001270EPH

Specification	Duct water cooling coil
Category	Water cooler/heater circular
Type	3 rows
Connection (mm)	22
Air tightness class	D
Diameter (mm)	200
Exchanger length (mm)	280
Exchanger height (mm)	325
Exchanger weight (kg)	5
Coil Casing Width (mm)	415
Coil Casing Height (mm)	360
Coil Casing Depth (mm)	397
Weight (kg)	8

Specification	Hydraulic kit
Volumiser vessel capacity (L)	35
Max. water pressure (bar) ***	3
Volumiser operating temperature	-10°C to 110°C
Automatic air vent type	15 mm 6 Bar
Lockshield gate valve type	22 mm brass

## DIMENSIONS



### Duct outlets, model R

Inner diameter of female outlet collar ø200 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

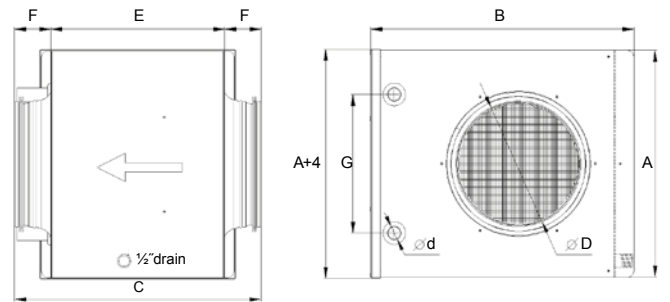
### Duct outlets, model L

Inner diameter of female outlet collar ø200 mm

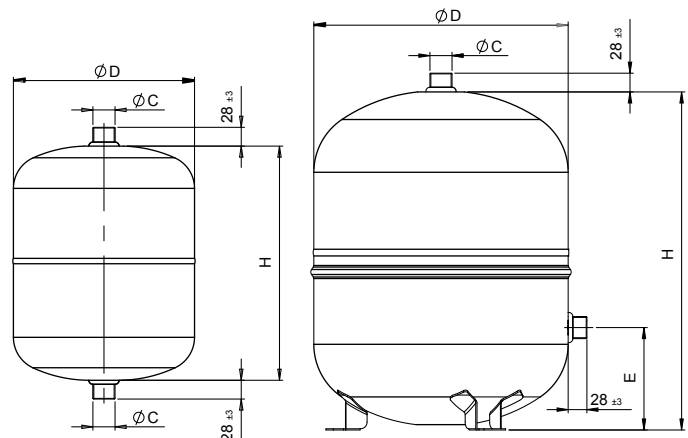
1. Exhaust air out
2. Outdoor air to unit
3. Supply air to dwelling
4. Extract air from dwelling to unit
5. Condensate drain

+ 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



Ø D(mm)	A(mm)	B(mm)	C(mm)	E(mm)	F(mm)	G(mm)	Ø d(mm)
200	360	415	397	277	60	220	22



Height	Diameter	Connection Height	Connection Size
H	Ø	E	C
367	380	125	1" G

\*Cooling capacity may vary depending on outdoor and indoor temperature and relative humidity conditions.\*\*Complies with ISO 16890. \*\*\* Max. pressure 3 bar / 0,3 MPa. Correctly sized pipes should be used for installation. The relevant standards and regulations must be followed.

## CAPACITY TABLES- Standard heat exchanger

Adroit DV145 Comfort Cooling Kit			Standard Plastic Heat Exchanger Models								
External Conditions: 34°C; 50% rH											
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	60	70	80	90	100	110	120	130	140
		Cooling Airflow Rates (m³/h)	216	252	288	324	360	396	432	468	504
		Fan speed (%)	46	49	52	56	61	63	72	74	78
23°C, 50% rH	3.71	Combined kW	1.85	2.07	2.27	2.46	2.65	2.92	3.18	3.44	3.71
		Supply air °C	15.90	16.50	16.90	17.40	17.80	17.70	17.80	17.80	17.80
24°C, 50% rH	3.69	Combined kW	1.83	2.04	2.25	2.45	2.69	2.98	3.21	3.45	3.69
		Supply air °C	16.00	16.60	17.10	17.60	17.70	17.70	17.80	17.90	18.10
25°C, 50% rH	3.68	Combined kW	1.82	2.03	2.23	2.46	2.75	2.98	3.22	3.47	3.68
		Supply air °C	16.20	16.80	17.40	17.60	17.60	17.70	17.80	18.00	18.10
26°C, 50% rH	3.66	Combined kW	1.81	2.01	2.19	2.50	2.76	3.00	3.23	3.45	3.66
		Supply air °C	16.30	16.90	17.50	17.50	17.60	17.70	17.90	18.10	18.20

External Conditions: 32°C; 50% rH											
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	60	70	80	90	100	110	120	130	140
		Cooling Airflow Rates (m³/h)	216	252	288	324	360	396	432	468	504
		Fan speed (%)	46	49	52	56	61	63	72	74	78
23°C, 50% rH	3.14	Combined kW	1.63	1.83	2.02	2.17	2.34	2.49	2.67	2.93	3.14
		Supply air °C	15.30	15.90	16.40	16.70	17.10	17.50	17.70	17.60	17.60
24°C, 50% rH	3.16	Combined kW	1.62	1.81	1.98	2.14	2.30	2.48	2.75	2.96	3.16
		Supply air °C	15.40	16.00	16.50	16.90	17.30	17.60	17.50	17.60	17.70
25°C, 50% rH	3.18	Combined kW	1.61	1.78	1.96	2.12	2.29	2.53	2.75	2.82	3.18
		Supply air °C	15.50	16.10	16.70	17.20	17.50	17.40	17.50	17.50	17.70
26°C, 50% rH	3.17	Combined kW	1.59	1.78	1.93	2.08	2.33	2.55	2.79	2.98	3.17
		Supply air °C	15.70	16.30	16.80	17.30	17.30	17.40	17.50	17.70	17.80

External Conditions: 29°C; 50% rH											
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	60	70	80	90	100	110	120	130	140
		Cooling Airflow Rates (m³/h)	216	252	288	324	360	396	432	468	504
		Fan speed (%)	46	49	52	56	61	63	72	74	78
23°C, 50% rH	2.32	Combined kW	1.32	1.48	1.61	1.75	1.87	1.98	2.11	2.22	2.32
		Supply air °C	14.40	15.00	15.40	15.80	16.20	16.40	16.70	17.00	17.30
24°C, 50% rH	2.33	Combined kW	1.31	1.46	1.58	1.71	1.84	1.95	2.06	2.16	2.33
		Supply air °C	14.60	15.20	15.60	16.00	16.40	16.70	17.00	17.30	17.30
25°C, 50% rH	2.40	Combined kW	1.29	1.43	1.57	1.69	1.79	1.90	2.01	2.22	2.40
		Supply air °C	14.70	15.20	15.80	16.20	16.60	16.90	17.30	17.20	17.30
26°C, 50% rH	2.40	Combined kW	1.28	1.41	1.53	1.64	1.76	1.88	2.07	2.24	2.40
		Supply air °C	14.80	15.40	15.90	16.30	16.80	17.20	17.10	17.20	17.30

The combined total kW cooling accounted for cooith recovery, sensible and latent cooling. These results therefore reflect expected cooling power and supply air temperatures when in operation.  
For cooling output data based on other assumed external design conditions, please contact Airflow.  
The calculation method is assuming water used as circulating medium, inlet temperature = 6°C and outlet temperature = 12°C.  
100 Pa pressure drop is assumed. Fan speed (%) = Generated via Selectair.

## CAPACITY TABLES- Enthalpy heat exchanger

Adroit DV145 Comfort Cooling Kit			Optional Enthalpy Heat Exchanger Models								
External Conditions: 34°C; 50% rH											
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	60	70	80	90	100	110	120	130	140
		Cooling Airflow Rates (m³/h)	216	252	288	324	360	396	432	468	504
		Fan speed (%)	46	49	52	56	61	63	72	74	78
23°C, 50% rH	5.09	Combined kW	2.49	2.79	3.18	3.47	3.74	4.02	4.30	4.61	5.09
		Supply air °C	14.50	15.10	15.60	16.10	16.50	16.90	17.20	17.30	17.30
24°C, 50% rH	4.87	Combined kW	2.49	2.76	3.06	3.35	3.64	3.90	4.21	4.56	4.87
		Supply air °C	14.50	15.40	16.00	16.40	16.90	17.20	17.20	17.30	17.40
25°C, 50% rH	4.75	Combined kW	2.32	2.63	2.93	3.22	3.41	3.78	4.16	4.45	4.75
		Supply air °C	15.10	15.70	16.30	16.70	17.20	17.20	17.20	17.30	17.50
26°C, 50% rH	4.63	Combined kW	2.28	2.50	2.80	3.10	3.39	3.75	4.03	4.37	4.63
		Supply air °C	15.30	16.00	16.50	17.00	17.10	17.20	17.30	17.50	17.70
External Conditions: 32°C; 50% rH											
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	60	70	80	90	100	110	120	130	140
		Cooling Airflow Rates (m³/h)	216	252	288	324	360	396	432	468	504
		Fan speed (%)	46	49	52	56	61	63	72	74	78
23°C, 50% rH	4.06	Combined kW	2.14	2.33	2.62	2.90	3.13	3.34	3.61	3.77	4.06
		Supply air °C	14.30	14.80	15.30	15.70	16.10	16.40	16.80	17.10	17.30
24°C, 50% rH	4.00	Combined kW	2.01	2.31	2.50	2.77	2.96	3.23	3.40	3.73	4.00
		Supply air °C	14.50	15.10	15.60	16.00	16.40	16.80	17.20	17.20	17.20
25°C, 50% rH	3.87	Combined kW	1.97	2.17	2.47	2.65	2.84	3.02	3.40	3.64	3.87
		Supply air °C	14.80	15.30	15.90	16.30	16.80	17.20	17.10	17.20	17.30
26°C, 50% rH	3.75	Combined kW	1.88	2.14	2.34	2.54	2.73	3.03	3.28	3.52	3.75
		Supply air °C	15.00	15.60	16.20	16.70	17.10	17.10	17.20	17.30	17.40
External Conditions: 29°C; 50% rH											
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	60	70	80	90	100	110	120	130	140
		Cooling Airflow Rates (m³/h)	216	252	288	324	360	396	432	468	504
		Fan speed (%)	46	49	52	56	61	63	72	74	78
23°C, 50% rH	2.91	Combined kW	1.58	1.77	1.94	2.12	2.28	2.44	2.61	2.76	2.91
		Supply air °C	13.80	14.40	14.80	15.30	15.60	15.90	16.20	16.50	16.80
24°C, 50% rH	2.71	Combined kW	1.53	1.73	1.82	1.99	2.16	2.33	2.49	2.65	2.71
		Supply air °C	14.10	14.60	15.10	15.60	15.90	16.30	16.60	16.90	17.20
25°C, 50% rH	2.73	Combined kW	1.40	1.59	1.79	1.87	2.04	2.22	2.29	2.49	2.73
		Supply air °C	14.30	14.90	15.40	15.90	16.20	16.60	17.00	17.10	17.10
26°C, 50% rH	2.63	Combined kW	1.36	1.57	1.66	1.84	1.93	2.11	2.25	2.45	2.63
		Supply air °C	14.60	15.20	15.70	16.20	16.60	17.00	17.00	17.10	17.10

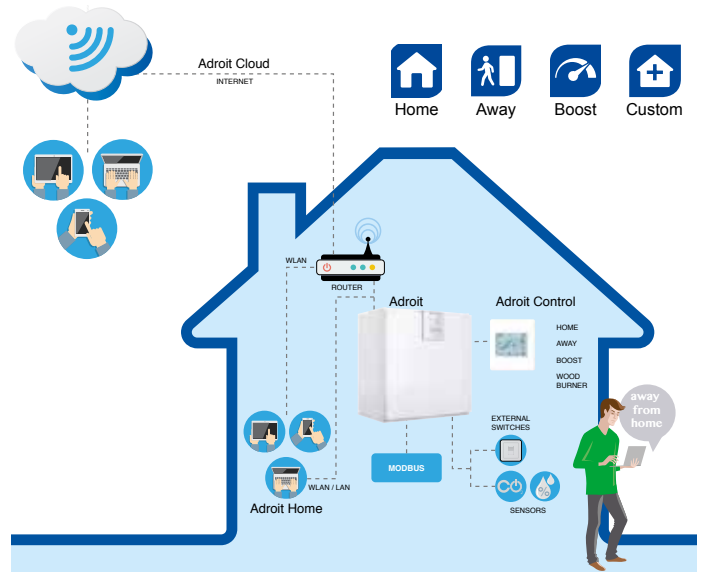
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## CONTROLS

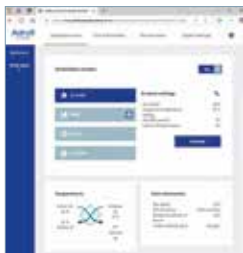
Ideal indoor air quality is achieved by automatically **adjusted ventilation**

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

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

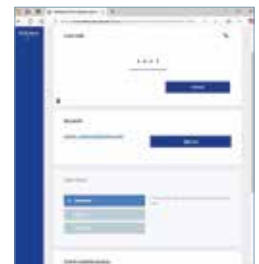
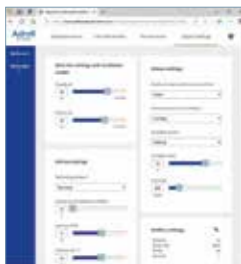
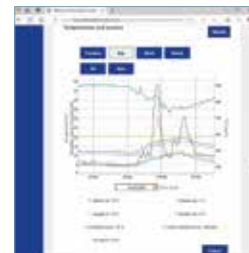


## Customised Control, Anywhere



# Adroit™

- Tailor your ventilation around your daily life
- Four customisable ventilation profiles can be scheduled around you
- BMS connectivity enables the property's ventilation to be controlled from a central point
- Maintain a healthy indoor air environment at all times whilst using minimal energy
- Profiles include:
  - Home** - control the everyday running rate
  - Away** - reduces the flow rate when demand is low
  - Boost** - increases the flow rate when occupancy has increased
  - Custom** - customise the unit operating mode to suit user preferences



## CONTROLS & ACCESSORIES



**AirflexPro Round Pipe - Red**  
No: 9041130  
Ø75 mm x 50 M.  
A quick and easy to fit system of semi-rigid ducting (max. air volume 30 m<sup>3</sup>/h).



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



**AirflexPro Round Pipe - Blue**  
No: 90001971  
Ø90 mm x 50 M.  
A quick and easy to fit system of semi-rigid ducting (max. air volume 50 m<sup>3</sup>/h).



**DV145 Adroit Filter Set**  
No: 90000376  
Replace filters 2x a year. (2 x G4/ISO Coarse 75%, 1 x F7/ISO ePM1 50%).

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

Call: 01494 525252

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

**AIRFLOW**

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