

# Comfort Cooling Kit

for DV245 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 DV245 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 165 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.



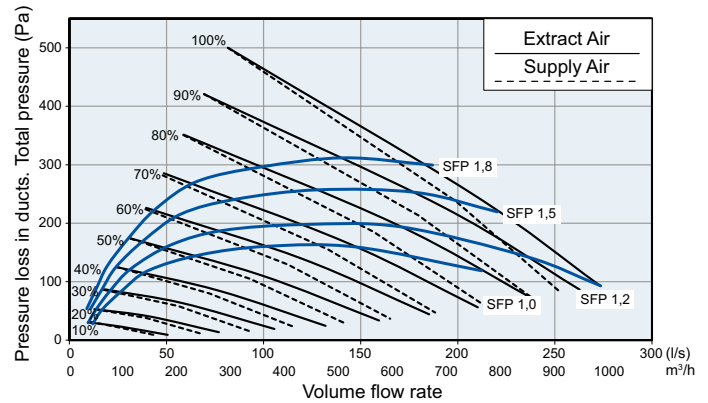
# Comfort Cooling Kit for DV245 Adroit

## BILL OF MATERIALS

Adroit DV245 Comfort Cooling Kit - 90002289

Part No:	Description	Qty
90000610	Adroit digital controller	1
60000134	NTC sensor	1
90002280	Duct water cooling coil	1
90002284	50 litre volumiser vessel	1
90002282	Automatic air vent	1
90002283	22 mm brass lockshield gate valve	1

## PERFORMANCE



\* Guidance only. Dependant upon system pressure.

## SOUND MATERIALS

	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 <sup>3</sup> /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
$L_w$ , 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 <sup>2</sup> 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 <sup>3</sup> /h	475.2/532.8		572.4/644.4		691.2/770.4		770.4/874.8		903.6/1015.2		
$L_{pA}$ , dB (A)	37.1		39.2		42.0		44.5		48.4		

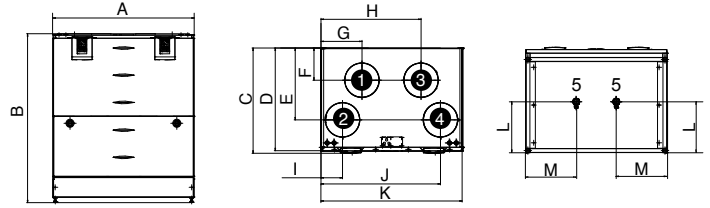
## TECHNICAL SPECIFICATION

90002289 Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa Max cooling capacity (kW) * EAN	Adroit DV245 Comfort Cooling Kit 976 / 271 6.9 5019009338651
Specification	Adroit DV245 MVHR Unit
Suitable for dwellings up to m <sup>2</sup>	400
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa	976 / 271
Thermal efficiency (%)	Up to 90
Heat exchanger	Cross-Counter-Flow (Aluminium)
Fans	EC
Summer by-pass damper	100% automatic
Integral humidity sensor (RH %)	0 - 100
Integral CO <sub>2</sub> sensor (ppm)	500 - 2000
Frost protection (optional heater)	Smart Frost Protection Strategy Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Controls (optional)	
Connection to BMS	Modbus / KNX optional
Mounting	Floor
Sound pressure level @3m (dB(A))	24.5
Duct diameter (mm)	250 (4 ports)
Condensate discharge	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	328
Filter Class**	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	3000 (2 x 1500)
Protection class	IP34
Casing insulation (mm)	50
Weight (kg)	181
Dimensions (L x D x H) (mm)	1038 x 773 x 1226-1241
Duct entry	Top Entry
Versions available:	
Right Hand:	90001271
With optional electric post-heater:	90001271EPH
Left Hand:	90001272
With optional electric post-heater:	90001272EPH

Specification	Duct water cooling coil
Category	Water cooler/heater circular
Type	3 rows
Connection (mm)	22
Air tightness class	D
Diameter (mm)	250
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)	417
Weight (kg)	8

Specification	Hydraulic kit
Volumiser vessel capacity (L)	50
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 the female collar: 250 mm

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

### Duct outlets, Model L

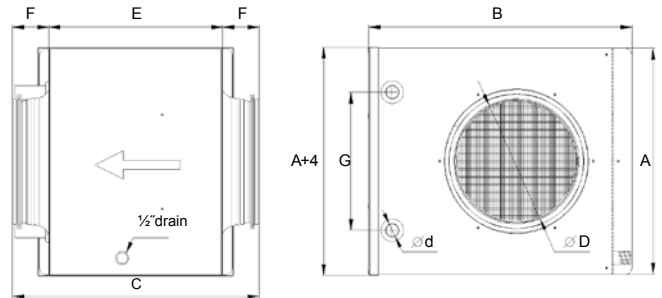
Inner diameter of the female collar: 250 mm

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

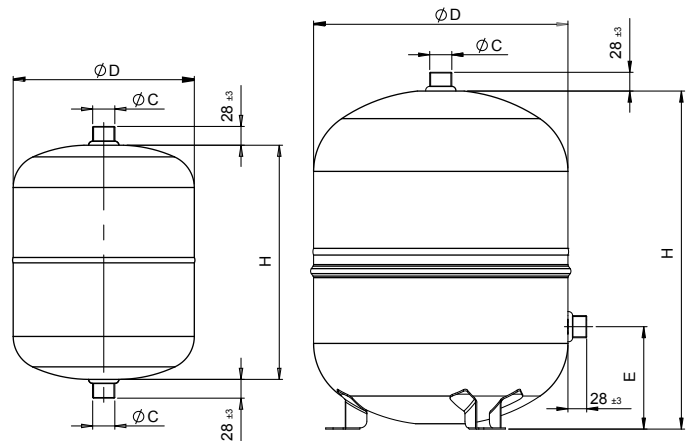
+ excludes motors. Motor warranty one year from date of purchase

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

\*\*Adjustable feet



Ø D(mm)	A(mm)	B(mm)	C(mm)	E(mm)	F(mm)	G(mm)	Ø d(mm)
250	360	415	417	277	70	220	22



Height	Diameter	Connection Height	Connection Size
H	Ø	E	C
505	380	153	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 DV245 Comfort Cooling Kit			Standard Aluminium Heat Exchanger Models										
External Conditions: 34°C; 50% rH													
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	100	110	120	130	140	150	160	170	180	190	200
		Cooling Airflow Rates (m³/h)	360	396	432	468	504	540	576	612	648	684	720
		Fan speed (%)	50	52	55	57	61	63	66	70	73	75	78
23°C, 50% rH	5.09	Combined kW	2.70	2.93	3.21	3.47	3.68	4.03	4.24	4.47	4.66	4.86	5.09
		Supply air °C	17.70	17.80	17.80	17.90	17.90	18.00	18.10	18.30	18.40	18.50	18.60
24°C, 50% rH	5.00	Combined kW	2.71	3.01	3.28	3.49	3.75	3.97	4.21	4.43	4.61	4.85	5.00
		Supply air °C	17.70	17.70	17.80	17.90	18.00	18.10	18.30	18.40	18.50	18.70	18.80
25°C, 50% rH	4.95	Combined kW	2.77	3.05	3.30	3.50	3.68	3.93	4.15	4.37	4.61	4.80	4.95
		Supply air °C	17.60	17.50	17.80	18.00	18.10	18.30	18.40	18.60	18.80	18.80	19.00
26°C, 50% rH	4.92	Combined kW	2.80	3.01	3.24	3.48	3.74	3.95	4.13	4.33	4.55	4.76	4.92
		Supply air °C	17.60	17.70	17.90	18.10	18.30	18.40	18.60	18.80	18.90	19.00	19.20
External Conditions: 32°C; 50% rH													
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	100	110	120	130	140	150	160	170	180	190	200
		Cooling Airflow Rates (m³/h)	360	396	432	468	504	540	576	612	648	684	720
		Fan speed (%)	50	52	55	57	61	63	66	70	73	75	78
23°C, 50% rH	4.36	Combined kW	2.39	2.56	2.67	2.97	3.15	3.40	3.59	3.79	4.02	4.22	4.36
		Supply air °C	17.10	17.40	17.70	17.60	17.60	17.70	17.80	17.80	18.00	18.10	18.20
24°C, 50% rH	4.32	Combined kW	2.37	2.51	2.73	2.97	3.22	3.44	3.56	3.77	3.98	4.18	4.32
		Supply air °C	17.30	17.60	17.50	17.60	17.70	17.80	17.90	18.00	18.10	18.20	18.30
25°C, 50% rH	4.28	Combined kW	2.33	2.53	2.78	3.02	3.15	3.38	3.62	3.73	3.94	4.14	4.28
		Supply air °C	17.50	17.40	17.50	17.60	17.70	17.80	18.00	18.10	18.30	18.40	18.50
26°C, 50% rH	4.21	Combined kW	2.33	2.55	2.82	2.96	3.19	3.39	3.57	3.78	3.90	4.11	4.21
		Supply air °C	17.30	17.40	17.50	17.70	17.80	18.00	18.10	18.30	18.40	18.50	18.70
External Conditions: 29°C; 50% rH													
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	100	110	120	130	140	150	160	170	180	190	200
		Cooling Airflow Rates (m³/h)	360	396	432	468	504	540	576	612	648	684	720
		Fan speed (%)	50	52	55	57	61	63	66	70	73	75	78
23°C, 50% rH	3.31	Combined kW	1.89	2.00	2.17	2.22	2.36	2.42	2.66	2.88	2.99	3.22	3.31
		Supply air °C	16.10	16.40	16.80	17.00	17.20	17.50	17.40	17.40	17.40	17.50	17.60
24°C, 50% rH	3.30	Combined kW	1.82	1.97	2.03	2.20	2.32	2.55	2.67	2.88	3.01	3.20	3.30
		Supply air °C	16.40	16.60	16.90	17.30	17.30	17.30	17.40	17.40	17.50	17.60	17.70
25°C, 50% rH	3.27	Combined kW	1.77	1.95	2.02	2.21	2.40	2.52	2.76	2.87	2.97	3.17	3.27
		Supply air °C	16.50	16.90	17.30	17.20	17.20	17.30	17.40	17.50	17.60	17.70	17.80
26°C, 50% rH	3.23	Combined kW	1.74	1.92	2.07	2.24	2.37	2.59	2.71	2.82	3.03	3.13	3.23
		Supply air °C	16.80	17.10	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	18.00

## CAPACITY TABLES- Enthalpy heat exchanger

Adroit DV245 Comfort Cooling Kit			Optional Enthalpy Heat Exchanger Models										
External Conditions: 34°C; 50% rH													
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	100	110	120	130	140	150	160	170	180	190	200
		Cooling Airflow Rates (m³/h)	360	396	432	468	504	540	576	612	648	684	720
		Fan speed (%)	50	52	55	57	61	63	66	70	73	75	78
23°C, 50% rH	6.91	Combined kW	3.77	4.05	4.31	4.69	5.05	5.37	5.72	5.93	6.26	6.58	6.91
		Supply air °C	16.50	16.90	17.30	17.30	17.30	17.40	17.50	17.60	17.70	17.90	18.00
24°C, 50% rH	6.59	Combined kW	3.65	3.75	4.22	4.59	4.92	5.17	5.49	5.83	6.03	6.39	6.59
		Supply air °C	16.90	16.90	17.20	17.30	17.40	17.50	17.60	17.80	17.90	18.10	18.30
25°C, 50% rH	6.37	Combined kW	3.34	3.66	4.16	4.45	4.80	5.03	5.32	5.59	5.86	6.17	6.37
		Supply air °C	16.80	17.20	17.20	17.40	17.50	17.70	17.90	18.00	18.20	18.40	18.50
26°C, 50% rH	6.18	Combined kW	3.41	3.53	4.05	4.32	4.60	4.91	5.13	5.40	5.67	5.94	6.18
		Supply air °C	17.10	17.10	17.30	17.50	17.70	17.90	18.00	18.30	18.50	18.60	18.80
External Conditions: 32°C; 50% rH													
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	100	110	120	130	140	150	160	170	180	190	200
		Cooling Airflow Rates (m³/h)	360	396	432	468	504	540	576	612	648	684	720
		Fan speed (%)	50	52	55	57	61	63	66	70	73	75	78
23°C, 50% rH	5.62	Combined kW	3.09	3.36	3.59	3.80	4.09	4.37	4.62	4.93	5.16	5.38	5.62
		Supply air °C	16.10	16.50	16.90	17.20	17.20	17.20	17.30	17.40	17.50	17.60	17.70
24°C, 50% rH	5.46	Combined kW	2.97	3.25	3.42	3.70	3.98	4.28	4.50	4.73	4.96	5.21	5.46
		Supply air °C	16.50	16.90	17.20	17.20	17.20	17.30	17.40	17.50	17.70	17.80	17.90
25°C, 50% rH	5.27	Combined kW	2.85	3.07	3.33	3.65	3.93	4.15	4.39	4.60	4.84	5.07	5.27
		Supply air °C	16.80	17.10	17.10	17.20	17.30	17.40	17.60	17.70	17.90	18.10	18.20
26°C, 50% rH	5.05	Combined kW	2.76	3.03	3.31	3.55	3.80	4.03	4.20	4.39	4.63	4.84	5.05
		Supply air °C	17.10	17.10	17.20	17.30	17.40	17.60	17.70	18.00	18.10	18.30	18.40
External Conditions: 29°C; 50% rH													
Internal Conditions	Max kW	Cooling Airflow Rates (l/s)	100	110	120	130	140	150	160	170	180	190	200
		Cooling Airflow Rates (m³/h)	360	396	432	468	504	540	576	612	648	684	720
		Fan speed (%)	50	52	55	57	61	63	66	70	73	75	78
23°C, 50% rH	4.00	Combined kW	2.30	2.45	2.62	2.77	2.94	3.04	3.16	3.42	3.66	3.86	4.00
		Supply air °C	15.60	15.90	16.30	16.50	16.90	17.10	17.20	17.20	17.20	17.30	17.30
24°C, 50% rH	3.84	Combined kW	2.17	2.34	2.51	2.57	2.72	2.97	3.12	3.35	3.55	3.65	3.84
		Supply air °C	15.90	16.30	16.60	16.90	17.20	17.10	17.10	17.20	17.30	17.40	17.50
25°C, 50% rH	3.66	Combined kW	2.05	2.22	2.29	2.49	2.66	2.88	3.00	3.21	3.33	3.56	3.66
		Supply air °C	16.30	16.60	17.00	17.10	17.10	17.10	17.20	17.30	17.50	17.60	17.70
26°C, 50% rH	3.50	Combined kW	1.92	2.06	2.25	2.40	2.63	2.75	2.89	3.10	3.20	3.31	3.50
		Supply air °C	16.50	17.00	17.00	17.00	17.10	17.20	17.40	17.50	17.60	17.70	17.80

The combined total kW cooling accounted for coilth 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.

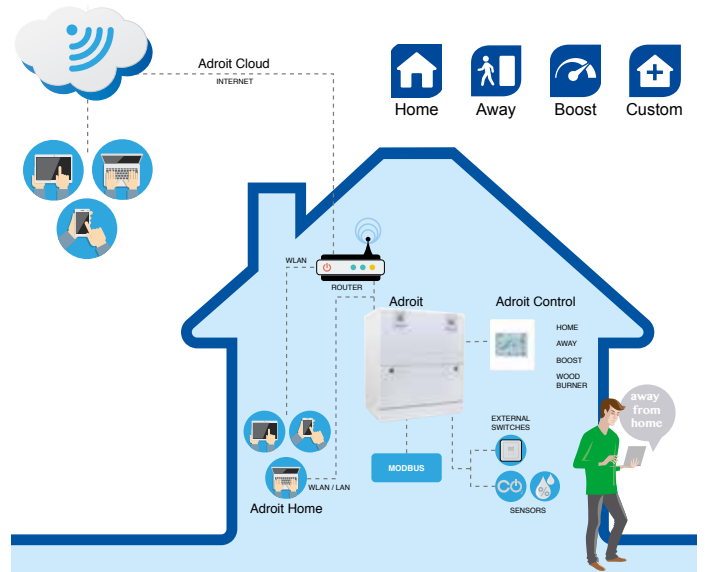
100 Pa pressure drop is assumed. Fan speed (%) = Generated via Selectair.

## CONTROLS

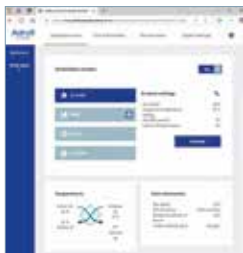
Ideal indoor air quality is achieved by automatically **adjusted ventilation**

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

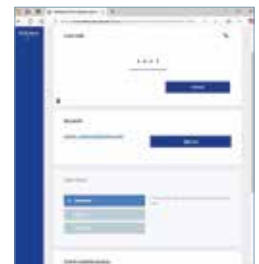
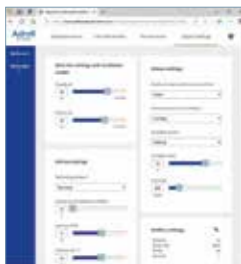
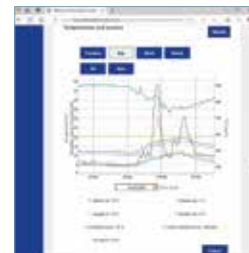


## Customised Control, Anywhere



# 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)



**DV245 Adroit Filter Set**  
No: 90000611  
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)

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