# Comfort Cooling Kit
## for DV110 Adroit

HVR AWARDS Highly Commended 2026 www.hvrawards.com





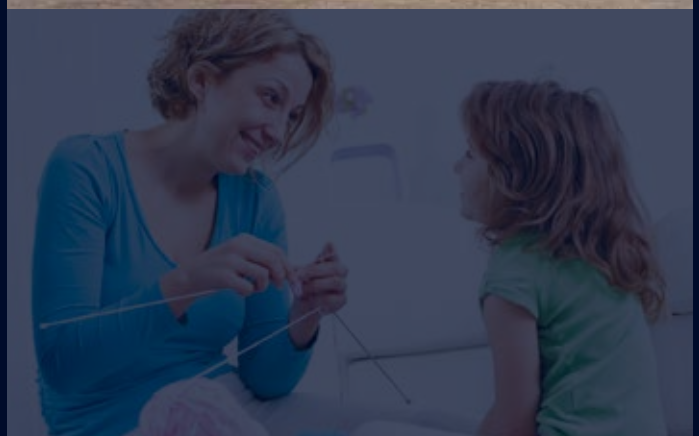





## KEY FEATURES

- 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 DV110 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 75 m² (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.

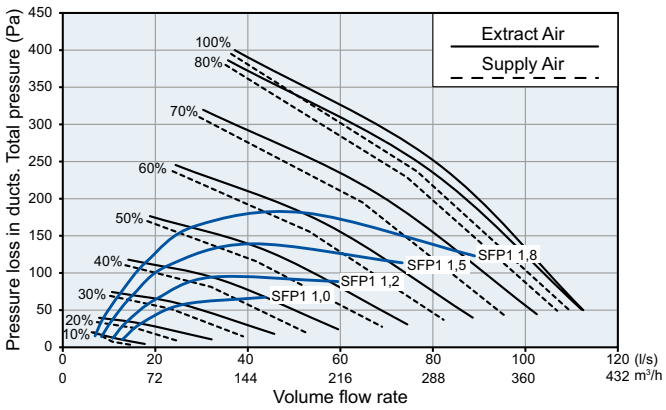
# Comfort Cooling Kit
## for DV110 Adroit

## BILL OF MATERIALS

Adroit DV110 Comfort Cooling Kit - 90002287

| Part No: | Description | Qty |
|---|---|---|
| **90000610** | Adroit digital controller | 1 |
| **60000134** | NTC sensor | 1 |
| **90002279** | Duct water cooling coil | 1 |
| **90000497** | 200 mm to 160mm Metal connector | 2 |
| **90002281** | 35 litre volumiser vessel | 1 |
| **90002282** | Automatic air vent | 1 |
| **90002283** | 22 mm brass lockshield gate valve | 1 |

## PERFORMANCE




* Guidance only. Dependant 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** | 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 (%) |
|---|---|---|
| **Kitchen+1 additional wet room** | 0.83 | 91% |
| **Kitchen+2 additional wet rooms** | 0.85 | 90% |
| **Kitchen+3 additional wet rooms** | 0.97 | 89% |
| **Kitchen+4 additional wet rooms** | 1.16 | 89% |
| **Kitchen+5 additional wet rooms** | 1.4 | 88% |

## 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 (%) | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | | 100 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | | 100 |
| Medium frequency of the octave band Hz | 63 | 53 | 60 | 67 | 71 | 74 | 78 | 81 | 83 | | 84 | 54 | 56 | 62 | 65 | 69 | 72 | 75 | 77 | | 79 |
| | 125 | 48 | 56 | 61 | 66 | 70 | 74 | 76 | 78 | | 80 | 42 | 44 | 50 | 53 | 58 | 61 | 64 | 66 | | 68 |
| | 250 | 46 | 53 | 58 | 62 | 65 | 69 | 71 | 77 | | 76 | 34 | 41 | 46 | 50 | 53 | 56 | 60 | 62 | | 64 |
| | 500 | 40 | 48 | 56 | 57 | 60 | 62 | 65 | 70 | | 69 | 26 | 35 | 40 | 43 | 46 | 49 | 52 | 55 | | 56 |
| | 1000 | 31 | 42 | 50 | 55 | 58 | 61 | 64 | 67 | | 67 | 18 | 27 | 34 | 38 | 41 | 44 | 47 | 50 | | 51 |
| | 2000 | 18 | 32 | 40 | 46 | 52 | 56 | 60 | 64 | | 64 | 13 | 17 | 24 | 29 | 33 | 36 | 39 | 42 | | 44 |
| | 4000 | 17 | 20 | 30 | 38 | 44 | 49 | 53 | 62 | | 58 | 17 | 17 | 17 | 18 | 20 | 23 | 27 | 31 | | 33 |
| | 8000 | 21 | 21 | 25 | 34 | 42 | 48 | 53 | 62 | | 59 | 21 | 21 | 21 | 21 | 21 | 22 | 24 | 26 | | 29 |
| $L_W$, dB | | 55 | 62 | 69 | 73 | 76 | 80 | 83 | 88 | | 86 | 55 | 57 | 62 | 66 | 70 | 72 | 75 | 78 | | 79 |
| $L_{WA}$, dB(A) | | 41 | 49 | 56 | 60 | 63 | 67 | 69 | 75 | | 73 | 32 | 38 | 43 | 46 | 50 | 53 | 56 | 59 | | 60 |

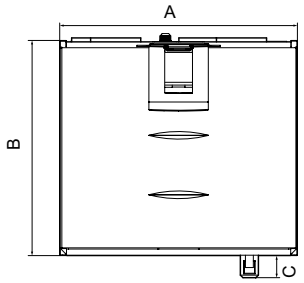
| | Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m² sound absorption) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Adjustment position | | | | | | | | | |
| Adjustment position (%) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | | 100 |
| $L_{pA}$, dB (A) | 21 | 24 | 30 | 32 | 35 | 39 | 42 | 45 | | 47 |

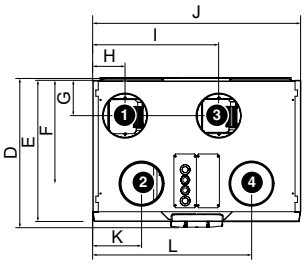
## TECHNICAL SPECIFICATION

| 90002287<br>Max air flow ($m^3$/h) / (l/s) at 100Pa<br>Max cooling capacity (kW) *<br>EAN | Adroit DV110 Comfort Cooling Kit<br>389 / 108<br>3.2<br>5019009338699 |
|---|---|
| **Specification** | **Adroit DV110 MVHR Unit** |
| **Suitable for dwellings up to $m^2$** | 170 |
| **Max air flow ($m^3$/h) / (l/s) at 100Pa** | 389 / 108 |
| **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 $CO_2$ sensor (ppm)** | 500 - 2000 |
| **Frost protection (optional heater)** | Smart Frost Protection Strategy |
| **Controls (optional)** | Digital - 4 Profiles, 100% adjustable<br>Manual - 4 Speed controller, adjustable |
| **Connection to BMS** | Modbus / KNX optional |
| **Mounting** | Wall / Ceiling |
| **Sound pressure level @3m (dB(A))** | 23 |
| **Duct diameter (mm)** | 160 (4 ports) |
| **Condensate discharge** | 3/4 BSP |
| **Electrical supply** | 230V / 1ph / 50Hz |
| **Electrical power input at max flow (W)** | 226 |
| **Filter Class**** | 2x ISO Coarse > 75% (G4) and<br>1x ISO ePM1 50% (F7) |
| **Built-in electric post-heater (optional) (W)** | 900 |
| **Protection class** | IP34 |
| **Casing insulation (mm)** | 20 |
| **Weight (kg)** | 58 |
| **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 |
| **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 |

*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.

## 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

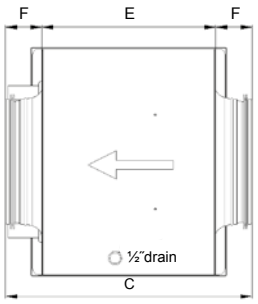
**Duct outlets, model L**

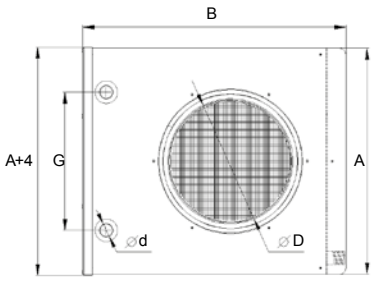
Inner diameter of female outlet collar ø160 mm

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

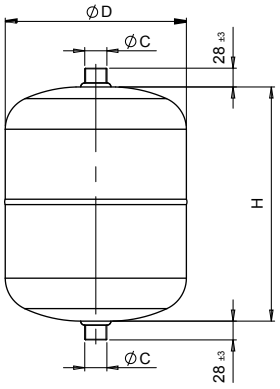
+ excludes motors. Motor warranty one year from date of purchase

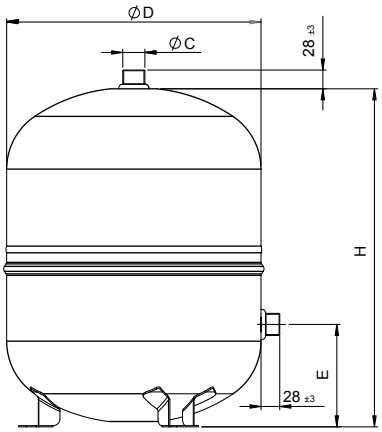
| Model | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DV110 | 638 | 678 | 42 | 472 | 455 | 325 | 111 | 112 | 390 | 638 | 160 | 478 |




| 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 |

## CAPACITY TABLES- Standard heat exchanger

| Adroit DV110 Comfort Cooling Kit | | | Standard Plastic Heat Exchanger Models | | | | |
|---|---|---|---|---|---|---|---|
| **External Conditions: 34°C; 50% rH** | | | | | | | |
| **Internal Conditions** | **Max kW** | **Cooling Airflow Rates (l/s)** | **50** | **60** | **70** | **80** | **90** |
| | | **Cooling Airflow Rates ($m^3/h$)** | **180** | **216** | **252** | **288** | **324** |
| | | **Fan speed (%)** | **50** | **56** | **61** | **68** | **75** |
| **23°C, 50% rH** | **2.46** | Combined kW | 1.62 | 1.85 | 2.07 | 2.27 | 2.46 |
| | | Supply air °C | 15.20 | 15.90 | 16.50 | 17.00 | 17.40 |
| **24°C, 50% rH** | **2.44** | Combined kW | 1.61 | 1.83 | 2.04 | 2.24 | 2.44 |
| | | Supply air °C | 15.30 | 16.00 | 16.60 | 17.10 | 17.60 |
| **25°C, 50% rH** | **2.46** | Combined kW | 1.60 | 1.82 | 2.03 | 2.23 | 2.46 |
| | | Supply air °C | 15.40 | 16.10 | 16.80 | 17.40 | 17.60 |
| **26°C, 50% rH** | **2.51** | Combined kW | 1.59 | 1.81 | 2.02 | 2.21 | 2.51 |
| | | Supply air °C | 15.50 | 16.30 | 17.00 | 17.50 | 17.50 |
| **External Conditions: 32°C; 50% rH** | | | | | | | |
| **Internal Conditions** | **Max kW** | **Cooling Airflow Rates (l/s)** | **50** | **60** | **70** | **80** | **90** |
| | | **Cooling Airflow Rates ($m^3/h$)** | **180** | **216** | **252** | **288** | **324** |
| | | **Fan speed (%)** | **50** | **56** | **61** | **68** | **75** |
| **23°C, 50% rH** | **2.17** | Combined kW | 1.43 | 1.63 | 1.82 | 2.01 | 2.17 |
| | | Supply air °C | 14.60 | 15.30 | 15.80 | 16.40 | 16.80 |
| **24°C, 50% rH** | **2.14** | Combined kW | 1.42 | 1.63 | 1.81 | 1.97 | 2.14 |
| | | Supply air °C | 14.70 | 15.50 | 16.00 | 16.50 | 17.00 |
| **25°C, 50% rH** | **2.11** | Combined kW | 1.41 | 1.61 | 1.78 | 1.96 | 2.11 |
| | | Supply air °C | 14.80 | 15.60 | 16.20 | 16.80 | 17.10 |
| **26°C, 50% rH** | **2.08** | Combined kW | 1.41 | 1.58 | 1.77 | 1.93 | 2.08 |
| | | Supply air °C | 15.00 | 15.60 | 16.30 | 16.90 | 17.30 |
| **External Conditions: 29°C; 50% rH** | | | | | | | |
| **Internal Conditions** | **Max kW** | **Cooling Airflow Rates (l/s)** | **50** | **60** | **70** | **80** | **90** |
| | | **Cooling Airflow Rates ($m^3/h$)** | **180** | **216** | **252** | **288** | **324** |
| | | **Fan speed (%)** | **50** | **56** | **61** | **68** | **75** |
| **23°C, 50% rH** | **1.74** | Combined kW | 1.17 | 1.22 | 1.48 | 1.62 | 1.74 |
| | | Supply air °C | 13.80 | 14.40 | 15.00 | 15.40 | 15.80 |
| **24°C, 50% rH** | **1.71** | Combined kW | 1.16 | 1.31 | 1.45 | 1.58 | 1.71 |
| | | Supply air °C | 13.90 | 14.50 | 15.10 | 15.60 | 16.00 |
| **25°C, 50% rH** | **1.68** | Combined kW | 1.14 | 1.28 | 1.43 | 1.56 | 1.68 |
| | | Supply air °C | 14.00 | 14.70 | 15.30 | 15.80 | 16.20 |
| **26°C, 50% rH** | **1.65** | Combined kW | 1.13 | 1.28 | 1.41 | 1.54 | 1.65 |
| | | Supply air °C | 14.10 | 14.80 | 15.40 | 15.90 | 16.40 |

## CAPACITY TABLES- Enthalpy heat exchanger

| Adroit DV110 Comfort Cooling Kit | | | Optional Enthalpy Heat Exchanger Models | | | | |
|---|---|---|---|---|---|---|---|
| **External Conditions: 34°C; 50% rH** | | | | | | | |
| **Internal Conditions** | **Max kW** | **Cooling Airflow Rates (l/s)** | **50** | **60** | **70** | **80** | **90** |
| | | **Cooling Airflow Rates (m³/h)** | **180** | **216** | **252** | **288** | **324** |
| | | **Fan speed (%)** | **50** | **56** | **61** | **68** | **75** |
| **23°C, 50% rH** | **3.16** | Combined kW | 2.03 | 2.35 | 2.56 | 2.97 | 3.16 |
| | | Supply air °C | 14.10 | 14.90 | 14.90 | 16.10 | 16.60 |
| **24°C, 50% rH** | **3.09** | Combined kW | 1.97 | 2.30 | 2.61 | 2.80 | 3.09 |
| | | Supply air °C | 14.30 | 15.10 | 15.70 | 16.20 | 16.70 |
| **25°C, 50% rH** | **2.99** | Combined kW | 1.94 | 2.27 | 2.49 | 2.74 | 2.99 |
| | | Supply air °C | 14.60 | 15.30 | 16.00 | 16.60 | 17.10 |
| **26°C, 50% rH** | **2.95** | Combined kW | 1.89 | 2.13 | 2.46 | 2.67 | 2.95 |
| | | Supply air °C | 14.80 | 15.60 | 16.30 | 16.90 | 17.10 |
| **External Conditions: 32°C; 50% rH** | | | | | | | |
| **Internal Conditions** | **Max kW** | **Cooling Airflow Rates (l/s)** | **50** | **60** | **70** | **80** | **90** |
| | | **Cooling Airflow Rates (m³/h)** | **180** | **216** | **252** | **288** | **324** |
| | | **Fan speed (%)** | **50** | **56** | **61** | **68** | **75** |
| **23°C, 50% rH** | **2.67** | Combined kW | 1.78 | 1.99 | 2.29 | 2.48 | 2.67 |
| | | Supply air °C | 13.80 | 14.50 | 15.10 | 15.60 | 16.10 |
| **24°C, 50% rH** | **2.65** | Combined kW | 1.73 | 1.95 | 2.16 | 2.36 | 2.65 |
| | | Supply air °C | 14.10 | 14.80 | 15.40 | 15.90 | 16.40 |
| **25°C, 50% rH** | **2.51** | Combined kW | 1.68 | 1.90 | 2.12 | 2.32 | 2.51 |
| | | Supply air °C | 14.20 | 14.90 | 15.60 | 16.10 | 16.60 |
| **26°C, 50% rH** | **2.39** | Combined kW | 1.63 | 1.86 | 2.08 | 2.18 | 2.39 |
| | | Supply air °C | 14.40 | 15.20 | 15.90 | 16.40 | 16.90 |
| **External Conditions: 29°C; 50% rH** | | | | | | | |
| **Internal Conditions** | **Max kW** | **Cooling Airflow Rates (l/s)** | **50** | **60** | **70** | **80** | **90** |
| | | **Cooling Airflow Rates (m³/h)** | **180** | **216** | **252** | **288** | **324** |
| | | **Fan speed (%)** | **50** | **56** | **61** | **68** | **75** |
| **23°C, 50% rH** | **2.06** | Combined kW | 1.31 | 1.51 | 1.70 | 1.88 | 2.06 |
| | | Supply air °C | 13.40 | 14.00 | 14.60 | 15.00 | 15.50 |
| **24°C, 50% rH** | **1.93** | Combined kW | 1.26 | 1.47 | 1.75 | 1.75 | 1.93 |
| | | Supply air °C | 13.60 | 14.30 | 15.30 | 15.30 | 15.80 |
| **25°C, 50% rH** | **1.79** | Combined kW | 1.20 | 1.42 | 1.52 | 1.71 | 1.79 |
| | | Supply air °C | 13.70 | 14.40 | 15.00 | 15.50 | 16.00 |
| **26°C, 50% rH** | **1.76** | Combined kW | 1.16 | 1.38 | 1.48 | 1.68 | 1.76 |
| | | Supply air °C | 13.90 | 14.60 | 15.20 | 15.80 | 16.30 |

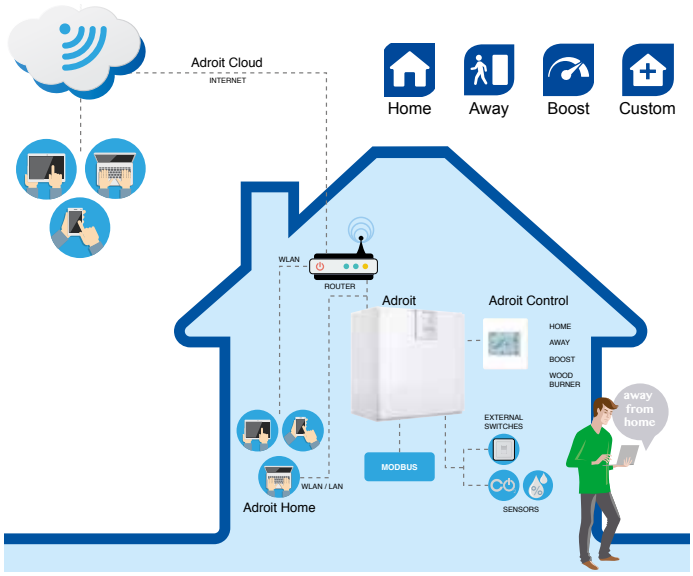
The combined total kW cooling accounted for coolth recovery, sensible and latent cooling. These results therefore reflect expected cooling power and supply air temperatures when in operation.
For cooling output data based on other assumed external design conditions, please contact Airflow.
The calculation 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

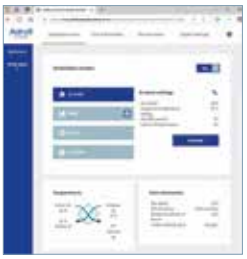
Ideal indoor air quality is achieved by automatically **adjusted ventilation**

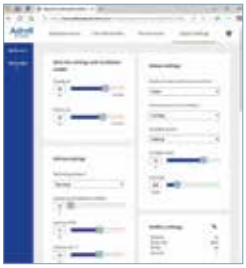
Adroit is controlled via 4 ventilation profiles controls providing the following features:

- **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 $CO_2$ 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



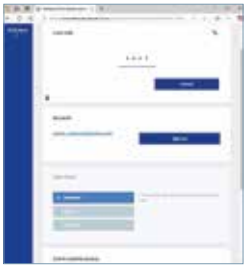


Adroit™

- 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 m³/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 m³/h).



**DV110 Adroit Filter Set**
**No: 90000378**
Replace filters 2x a year. (2 x G4/ISO Coarse 75%, 1 x F7/ISO ePM1 50%).

Others products available from **airflow.com**

**Call: 01494 525252** **Visit: airflow.com**

80001814 – Issue 1 04/26

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