AIRFLOW ®

bpc
Ventilation

Adroit™
DV245

Instruction Manual

Adroit™ DV245

bpc
Ventilation

Adroit™ DV245

AIRFLOW

Adroit™ DV245

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NOTE:
You can sign into your Adroit account at: www.airflowadroitcontrol.com

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MAIN PARTS OF THE VENTILATION UNIT
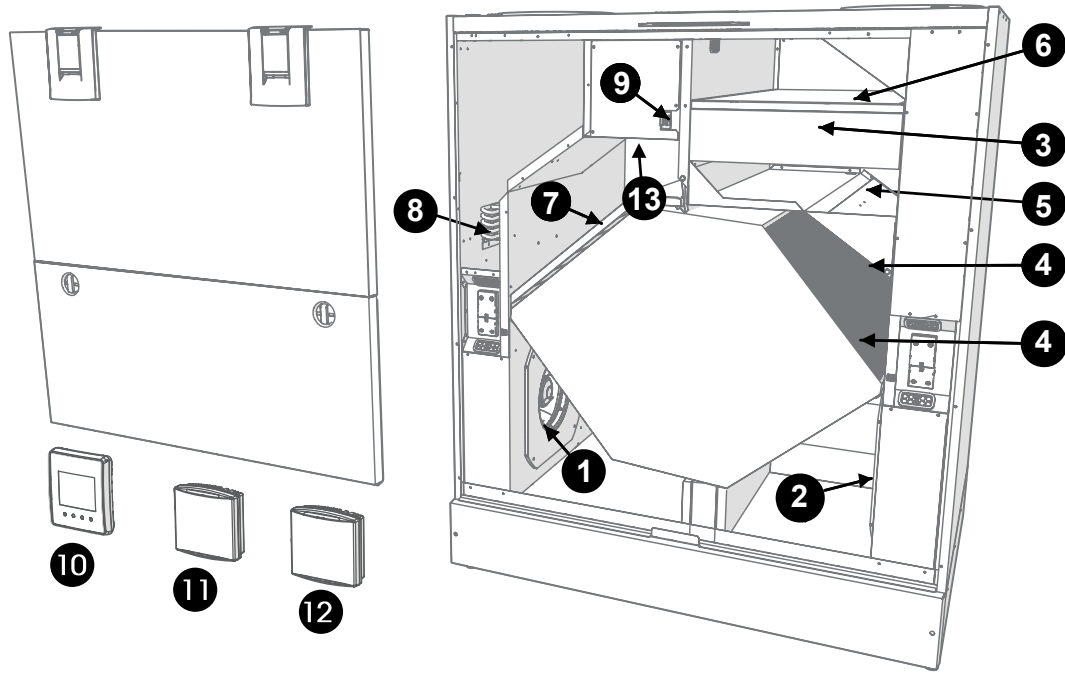
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NOTE:
For more detailed instructions, go to www.airflow.com

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INTRODUCTION

SYSTEM DESCRIPTION
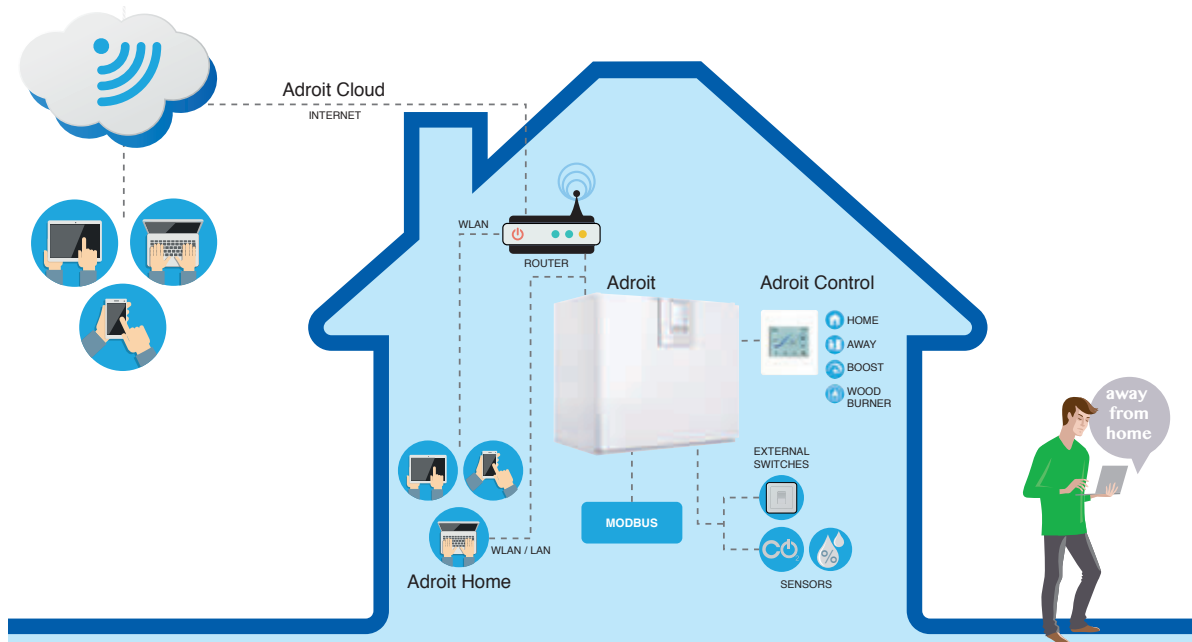
CONNECTING WITH ADROIT HOME

1. Connect Adroit unit to the mains.
2. Connect one end of the network cable (RJ-45) to computer and the other end to network connector on the Adroit unit.
3. Select on your computer: Start ⟶ Computer ⟶ Network
4. Double click on the Airflow icon.
5. Now you are connected to the Adroit Home service, you are able to control the Adroit unit.

REGISTERING TO THE ADROIT CLOUD

1. Connect with Adroit Home (instruction above).
2. Select Settings.
3. Press connect button in Adroit Cloud Service section.
4. Registration Page is now opened.
5. Enter the following information
    a. Device name- enter the desired name for the device
    b. User name
    c. E-mail address
    d. Password
6. Press the create account button.
7. An e-mail with your log-in details will be sent to the e-mail given during the registration process.
8. A verification e-mail will be sent to the e-mail address given during the registration process.
9. Click on the link given in this e-mail to verify your e-mail address.
10. You are now connected to the Adroit Cloud.

NOTE

The Adroit unit can also be connected by network cable to a router. In this case the Adroit unit can be controlled via your laptop, tablet, smartphone etc using a network created by the router.

NOTE

Following requirements:
Firefox, version 31 or higher
Opera, version 25 or higher
Chrome, version 31 or higher
Safari, version 7 or higher
The lastest browser versions on mobile devices.

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GENERAL SAFETY INSTRUCTIONS

For safe and proper handling, it is necessary to know the basic safety regulations and the intended usage of the ventilation system. Read this manual before operating the ventilation unit. Keep this manual for later use. In case of loss, you can download the manual from our website.

This user manual contains all important tips for operating the system safely. This user manual must be observed by all persons who operate and maintain the ventilation system. Furthermore, observe all local accident prevention regulations.

INTENDED USE

All Adroit ventilation units have been designed to provide appropriate and continuous ventilation in such a way that people and structures will remain healthy..

GUARANTEE AND LIABILITY

- Demands on guarantee and liability are excluded if they are caused by the following reasons:
- Unintended use of the ventilation system and the control unit
- Improper mounting, initial operation and operation
- Operating the ventilation system with a defective safety system
- Ignoring advice for transportation, mounting, operation and maintenance
- Unauthorized structural alteration and changes of the programming
- Disasters due to extraneous elements and force majeure

INSTALLATION

Installation and setup should be carried out only by qualified experts. Electrical installations and connections must be carried out only by an electrician and in compliance with local regulations.

INTRODUCTION

ADROIT DIGITAL CONTROLLER

BUTTON	DESCRIPTION
♺	**Change profile** button changes the ventilation profile or the operating status used.
ⓘ	**Profile Information** button allows you to view the currently active profile information.
°C	**Temperature** button displays temperature and sensor information.
≡	**Settings** button opens the settings.
↩	**Back** button takes you backwards in the menu.
◀	**Left arrow** button takes you left in the menu.
▶	**Right arrow** button takes you right in the menu.
✓	**OK** button accepts the selected option.
◉	**Select** button selects an option from the list.
✎	**Edit** allows you to edit settings.
+	**Plus** allows you to: • Increase the value of the selected setting. • Move to the next menu item. • Move from a one-day view to a week view in the temperature, relative humidity of air and carbon dioxide level graphs.
−	**Minus** allows you to: • Reduce the value of the selected setting. • Return to the previous menu item. • Move from a week view to a one-day view in the temperature, relative humidity of air and carbon dioxide level graphs.
▲	**Up arrow** button takes you upwards in the menu.
▼	**Down arrow** button takes you downwards in the menu.
〽	**Statistics** button opens the temperature, relative humidity of air and carbon dioxide level graphs (1 day or 1 week).
⦂	These icons indicate the hierarchy level of the settings.
🔒	This icon indicates when the feature is turned off at your user level. The parental controls lock code is 1001.
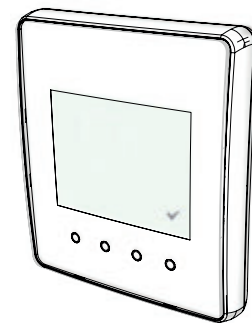
NOTE

The Adroit Digital Controller control panel contains the buttons described in the following table. You can press the graphical user interface buttons by using the ring-shaped buttons below the control panel. The control panel does not have a touch screen.

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INTRODUCTION

Ventilation has to be constant for the indoor air to stay healthy for the dwellers and the structures of the dwelling. Even for longer holidays, it is not advisable to stop the ventilation, because the indoor air will become stuffy and, during the heating season, the indoor air humidity may condense in the ventilation ductwork and structures, causing moisture damage.

You can control and automate the ventilation unit operation in the following ways:

- By using a control panel installed in the building
- Through the Home local network connection and the Web interface
- Through the Adroit Cloud Service and the Web interface
- Through a remote monitoring service or building automation by using voltage signals or Modbus messages

The required ventilation may also be adjusted automatically with the optional carbon dioxide and humidity sensors. In this case, ventilation remains optimal even if the dwelling is unoccupied.

By using the week clock, you can create just the right ventilation for your individual lifestyle.

The following settings will be configured during the setup of the ventilation system:

- user interface language
- time and date
- system administrator password
- parental controls, if turned on
- fan settings
- user profile settings, such as the temperature.

The qualified ventilation installer must complete the fan settings in accordance with the ventilation plan. Do not change these settings.

STARTING THE UNIT

If you are starting the ventilation unit for the first time or after a maintenance procedure, first connect it to the mains. During the start-up, the diagnostics display will appear for a few seconds, after which the main display of the At home profile opens.

If the ventilation unit was turned off from the control panel (see Turning the Unit Off), you can start it by pressing any control panel button.

WARNING

The unit is not intended for use by children under 8 or by persons with reduced sensory, physical or mental capabilities, or whose lack of knowledge and experience do not ensure safe operation of the unit.

Such persons can use the unit under supervision, or by following the instructions of someone who is responsible for their safety.

TIP

Adroit Digital Controller automatically switches to the sleep mode when the **Sleep time set in the display settings has elapsed**. You can wake up the control panel by pressing any control panel button.

NOTE

The first starting of the unit may take a while, because of the software version check.

BASIC SETTINGS

SWITCHING THE UNIT OFF

If you want to switch off the ventilation unit, proceed as follows:
1. Select **Settings** > **Turn unit OFF**.
2. Press the **OK** button.
3. The system asks for confirmation.
4. Press the **OK** button.
5. The ventilation unit is now switched off.

NOTE

However, it is recommended that the ventilation be kept turned on without disruptions.

DEPLOYMENT WIZARD

1. Start the Adroit ventilation device.
2. Press the **OK** button.
3. The deployment wizard is launched.

SELECTING THE LANGUAGE

1. Use the arrow buttons to select the language.
2. Select **OK**.
3. The language has now been set, and the control panel will move on to the time settings.

SET THE TIME

1. Use the **Plus** and **Minus** buttons to set the hours.
2. Select **Right arrow**.
3. Use the **Plus** and **Minus** buttons to set the minutes.
4. The time is now set.
5. Proceed to the next phase by selecting the **Right arrow** button.
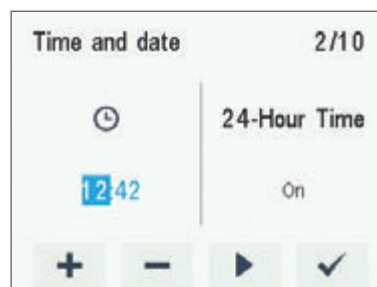
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SET THE 24 OR 12 HOUR CLOCK

By default, the system uses a **24** hour clock.
If you want to use the **24** hour clock, proceed to the next step by pressing the Arrow right button.
If you want to use the **12** hour clock, proceed as follows:

1. Press the **Minus** button. The **24-Hour Time** setting value is changed to **Off**.
2. Proceed to the next phase by pressing the **Right arrow** button.
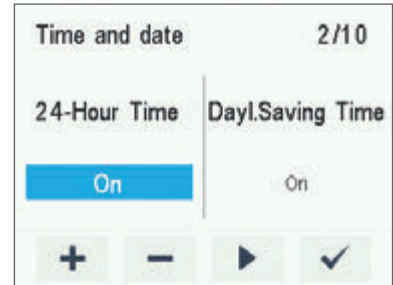
SET THE AUTOMATIC DAYLIGHT SAVING TIME

By default, the system automatically switches to the summer time.
If you want to use the automatic daylight saving time, proceed to the next step by pressing the right arrow button. If you want to use the manual daylight saving time, proceed as follows:

1. Press the **Minus** button. The Daylight Saving Time setting value is changed to **Off**.
2. Manual daylight saving time is now set.
3. Proceed to the next phase by pressing the **Right arrow** button.
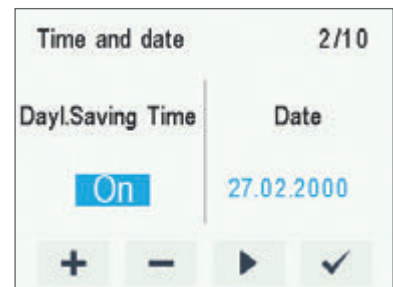
SET THE DATE

1. Use the **Plus** and **Minus** buttons to set the date.
2. Select **Right arrow**.
3. Use the **Plus** and **Minus** buttons to set the month.
4. Select **Right arrow**.
5. Use the **Plus** and **Minus** buttons to set the year.
6. Select **OK**.
7. The date is now set.
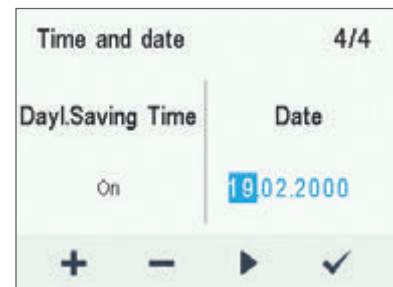
NOTE
You can browse the **Time and dat**e settings by using the **Right arrow** button.

FINISHING UP THE DEPLOYMENT

When you have made the basic settings for the deployment, the acknowledgement screen is opened.
If you want to continue and make the advanced settings for the ventilation device, press the **OK** button.
If you want to intermit the deployment and use the ventilation device on factory settings, press the **Back** button: You can make the expert settings for the ventilation device later.
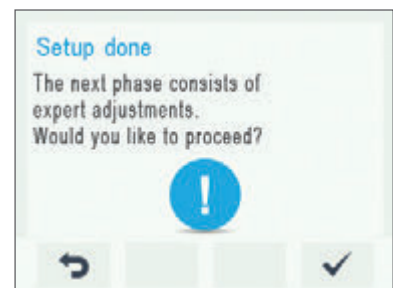
IMPORTANT

Some deployment phases require special equipment, such as an air flow meter

EXPERT SETTINGS

PASSWORD AND ACCESS LEVEL
Once you have finished up making the basic settings, the deployment wizard moves on to setting the system password.

NOTE
The default password is 0000, in which case the password will not be requested.

1. The deployment wizard Password and access level screen is opened.
2. Set the first digit of the password by using the **Up arrow** and **Down arrow** buttons. Proceed to the next digit by pressing the **Right arrow** button.
3. Set the second, third and fourth digit in the same manner as the first digit.
4. Press the **OK** button.
5. The password is now set.
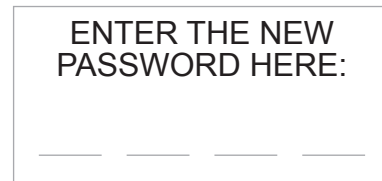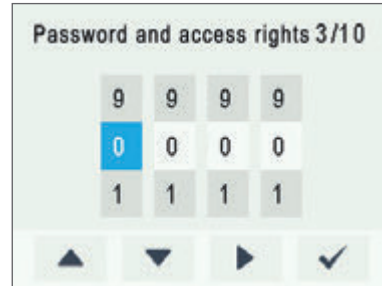
USER LEVEL

There are three user levels:

- **Extensive** — At the extensive user level, the user can access every menu of the control panel.
- **Normal** — At the normal user level, user access to some menus is restricted.
- **Limited** — At the limited user level, the user has access only to the basic functions of the ventilation unit.
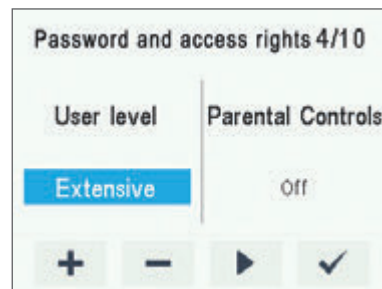
For more information on user levels, see Chapter 9, User level diagrams.
1. Use the **Plus** and **Minus** buttons to set the user level.
2. The user level is now set.
3. Proceed to the next phase by selecting the **Right arrow** button.

PARENTAL CONTROLS

Parental controls lock the control panel screen in a way that no one can damage the ventilation unit by pressing the control panel buttons randomly. When you want to set the system child lock, proceed as follows:
1. The deployment wizard Password and access level screen is opened.
2. Set the parental controls on or off by using the **Plus** and **Minus** buttons.
3. Press the **OK** button.
4. The parental controls are now set.
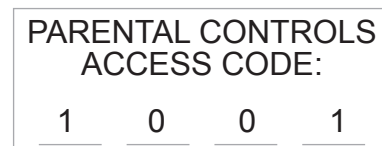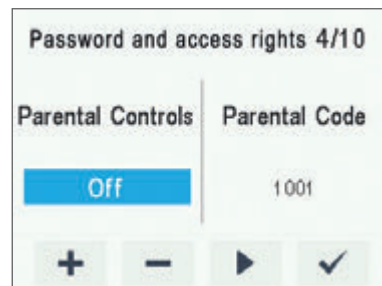
NOTE
You can browse the **Password and accessrights** settings with the **Right arrow** button.

NOTE
The access code of the parental controls cannot be changed. The access code is always **1001**.

Password and access rights 3/10

9	9	9	9
0	0	0	0
1	1	1	1

ENTER THE NEW PASSWORD HERE:

Password and access rights 4/10

User level	Parental Controls
Extensive	Off

Password and access rights 4/10

Parental Controls	Parental Code
Off	1001

PARENTAL CONTROLS ACCESS CODE:

1   0   0   1

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FAN SETTINGS

To set the output ratio between the supply and extract air fans:

! IMPORTANT

Adjust the air flows according to the values specified in the ventilation plan. It is recommended that the air flows be adjusted without having to choke the air flows at the valves. This is the most energy-efficient set up.

First, set both values as close to the ideal value as possible by looking at the supply and extract air fan curves. If the ratio between the air flows is very high at first, the ventilation unit may have to carry out extra defrosting cycles in sub-zero temperatures, thus making adjustment of the air flows more complicated. Check the air flows by measuring them at the valves, and fine-tune the percentage values as required.

NOTE

If the outdoor air is extremely cold (below -10°C on an aluminium cell, the ventilation unit may have to defrost the heat recovery cell. If this happens, the **Defrosting** icon will be displayed on the control panel. The air flows cannot be adjusted during defrosting.

SUPPLY AIR

When you want to make the system supply air settings, proceed as follows:
1. The deployment wizard Fan settings screen is opened.
2. Set the supply air quantity as a percentage of the maximum by using the **Plus** and **Minus** buttons. The fan speed (1/min) will change, according to the percentage value.
3. Once you have set the supply air fan settings, press the **Right arrow** button.

EXTRACT AIR

When you want to make the system extract air settings, proceed as follows:
1. The deployment wizard Fan settings screen is opened.
2. Set the extract air quantity as a percentage of the maximum by using the **Plus** and **Minus** buttons. The fan speed (1/min) will change, according to the percentage value.
3. Press the **OK** button.
4. The extract air fan ratio is now set.

NOTE
You can browse the **Fan** settings by using the **Right arrow** button.

! WARNING

The ventilation specialist has made the supply and exhaust air settings when deploying the ventilation unit. If you make changes to the settings, ensure that they conform with the ventilation plan.
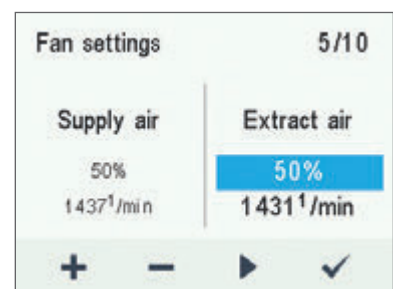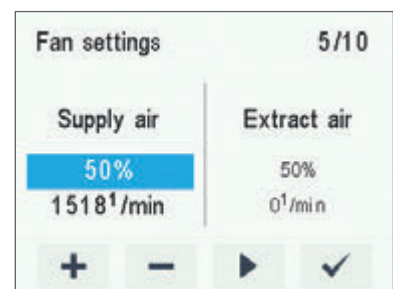
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EXPERT SETTINGS

PROFILE SETTINGS

In the following chapters, you can make ventilation settings for the system profiles.

AT HOME PROFILE

When you want to make the **At home** profile settings, proceed as follows:

1. The deployment wizard **At home** screen will open.

NOTE

Once you made the fan settings (step 5 in the deployment wizard) these values will default to the **At home** profile fan speed value. We recommend this basic amount of ventilation for the **At home** profile setting. If necessary, you can change it.

2. Set the **At Home** profile fan speed as a percentage of the maximum by using the **Plus** and **Minus** buttons.
3. The **At Home** profile fan speed value is now set.
4. Press the **Right arrow** button.
5. The temperature setup screen is opened.
6. Set the desired supply air temperature for the **At Home** profile by using the **Plus** and **Minus** buttons. You can adjust the temperature in the range of +10°C – +25°C.
7. The At home profile supply air temperature is now set.
8. Press the **Right arrow** button.
9. The setup screen for the automatic fan speed control, based on the relative humidity, appears.
10. Use the **Plus** and **Minus** buttons to select whether the automatic fan speed control, based on the relative humidity, is used or not.
11. The automatic fan speed control, based on the relative humidity, is now set.
12. Press the **Right arrow** button.
13. The setup screen for the automatic fan speed control, based on the carbon dioxide content, appears.
14. Use the **Plus** and **Minus** buttons to select whether the automatic fan speed control, based on the carbon dioxide content, is used or not.
15. The automatic fan speed control, based on the carbon dioxide content, is now set.
16. Press the **OK** button.

NOTE

Once you have set the fan speed for the **At home** profile, the fan speed for the **Boost** profile will default to +30% of the **At home** profile fan speed. We recommend this basic amount of ventilation for the **At home** profile setting. If necessary, you can change it.

BOOST PROFILE

The fan speed, supply air temperature, and the automatic fan speed control (based on either relative humidity of air or carbon dioxide level) is set for the Boost profile in the same way as for the At home and Away profiles. The Boost profile also has a timer setting.

NOTE

You can browse the settings of the At home profile with the **Right arrow** button.

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AWAY PROFILE

When you want to make the **Away** profile settings, proceed as follows:

1. The deployment wizard **Away** profile screen is opened.

NOTE

Once you have set the fan speed for the **At home** profile, the fan speed for the **Away** profile will default to -30% of the **At home** profile fan speed. We recommend this basic amount of ventilation for the **Away** profile setting. If necessary, you can change it.

---

2. Set the **Away** profile fan speed as a percentage of the maximum by using the **Plus** and **Minus** buttons.
3. The **Away** profile fan speed value is now set.
4. Press the **Right arrow** button.
5. The temperature setup screen is opened.
6. Set the desired supply air temperature for the **Away** profile by using the **Plus** and **Minus** buttons. You can adjust the temperature in the range of +10°C – +25°C.
7. The **Away** profile supply air temperature is now set.
8. Press the **Right arrow** button.
9. The setup screen for automatic fan speed control, based on the relative humidity, appears.
10. Use the **Plus** and **Minus** buttons to select whether the automatic fan speed control, based on the relative humidity, is used or not.
11. The automatic fan speed control, based on the relative humidity, is now set.
12. Press the **Right arrow** button.
13. The setup screen for the automatic fan speed control, based on the carbon dioxide content, appears.
14. Use the **Plus** and **Minus** buttons to select whether the automatic fan speed control, based on the carbon dioxide content, is used or not.
15. The automatic fan speed control, based on the carbon dioxide content, is now set.
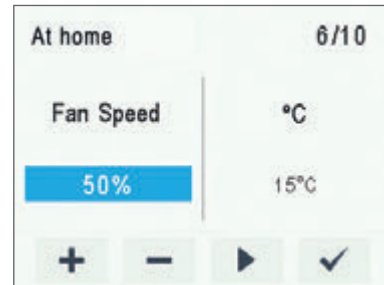16. Press the **OK** button.

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EXPERT SETTINGS

BOOST PROFILE

When you want to make the **Boost** profile settings, proceed as follows:

1. The deployment wizard **Boost** profile screen is opened.

NOTE

Once you have set the fan speed for the **At home** profile, the fan speed for the **Boost** profile will default to +30% of the At home profile fan speed. We recommend this basic amount of ventilation for the **Boost** profile setting. If necessary, you can change it.
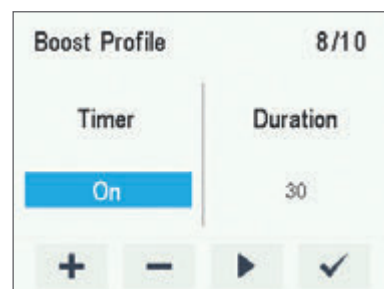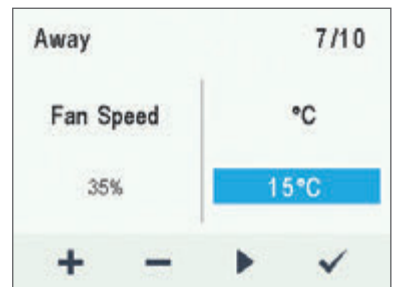
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2. Set the **Boost** profile fan speed as a percentage of the maximum by using the **Plus** and **Minus** buttons.
3. Press the **Right arrow** button.
4. The temperature setup screen is opened.
5. Set the desired supply air temperature for the **Boost** profile by using the **Plus** and **Minus** buttons. You can adjust the temperature in the range of +10°C – +25°C.
6. Press the **Right arrow** button.
7. The setup screen for the automatic fan speed control, based on the relative humidity, appears.
8. Use the **Plus** and **Minus** buttons to select whether the automatic fan speed control, based on the relative humidity, is used or not.
9. Press the **Right arrow** button.
10. The setup screen for the automatic fan speed control, based on the carbon dioxide content, appears.
11. Use the **Plus** and **Minus** buttons to select whether the automatic fan speed control, based on the carbon dioxide content, is used or not.
12. Press the **Right arrow** button.
13. The profile timer setting screen is displayed.
14. Use the **Plus** and **Minus** buttons to select whether the profile timer function is enabled or not. The options are:
    - **On** — When the timer is enabled, the **Boost** profile is only on for the period defined in the timer.
    - **Off** — When the timer is disabled, the **Boost** profile is used until you (or the week clock) change the profile.
15. Press the **Right arrow** button.
16. The timer duration setting screen appears.
17. Set the profile timer duration in minutes by using the **Plus** and **Minus** buttons.
18. Press the **OK** button.

Boost Profile	8/10
Fan Speed	°C
65%	15°C

Boost Profile	8/10
٠٠	CO$_2$
Off	Off

Boost Profile	8/10
Timer	Duration
On	30

Adrⓘit **DV245**
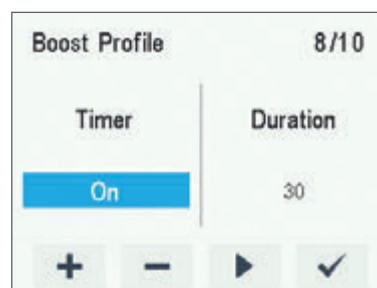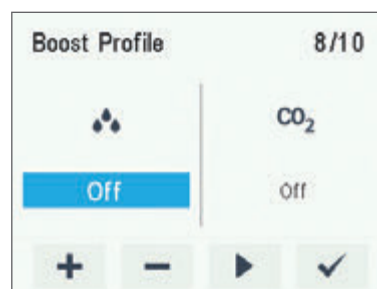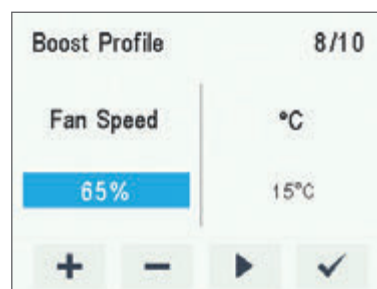
FIREPLACE PROFILE

When you want to make the **Fireplac**e function settings, proceed as follows:

1. The deployment wizard **Fireplace** function profile screen is opened.
2. Set the profile timer duration in minutes by using the **Plus** and **Minus** buttons.
3. The profile duration is now set.
4. Press the **Right arrow** button.
5. The screen for setting the profile supply air fan speed appears.
6. Set the **Fireplace** function supply air fan speed as a percentage of the maximum by using the **Plus** and **Minus** buttons.
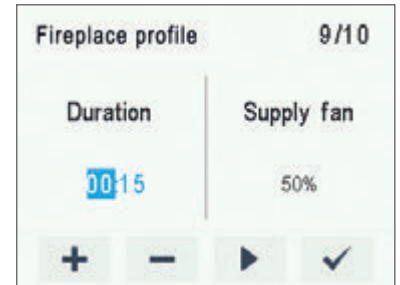
TIP

In the fireplace mode, we recommend that you increase the supply air fan speed, in order to obtain a positive pressure at the ventilation zone. We do not recommend reducing the extract air fan speed.
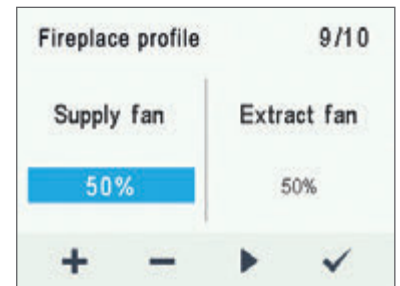
7. The **Fireplace function** supply air fan speed is now set.
8. Press the **Right arrow** button.
9. The screen for setting the profile extract air fan speed appears.
10. Set the **Fireplace function** extract air fan speed as a percentage of the maximum by using the **Plus** and **Minus** buttons.

11. The **Fireplace function** extract air fan speed is now set.
12. Press the **Right arrow** button.
13. The profile timer setting screen is displayed.
14. Use the **Plus** and **Minus** buttons to select whether the profile timer function is enabled or not. The options are:
    • **On** — When the timer is enabled, the **Fireplace function** is only on for the period defined in the timer.
    • **Off** — When the timer is disabled, the **Fireplace function** is used until you (or the week clock) change the profile.
15. The profile timer function is now set.
16. Press the **OK** button.
17. The **Fireplace function** settings are now complete.
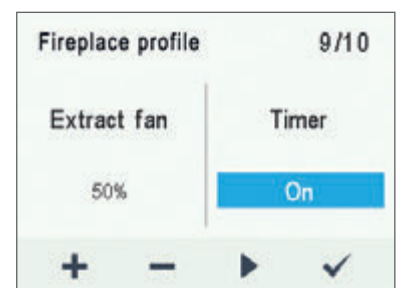
EXPERT SETTINGS

THE VENTILATION UNIT HAS FOUR VENTILATION PROFILES:

AT HOME

Use this ventilation profile when the apartment or the premises is occupied

AWAY

Use this ventilation profile when the apartment or premises are unoccupied, e.g. during a trip or other long absence.

VENTILATION BOOST

Use this profile to increase the ventilation rate, e.g. when there are more people than usual in the apartment or elsewhere on the premises.

FIREPLACE PROFILE

Use this ventilation profile when, for example, you are making a fire in the fireplace. This profile is primarily used to create momentary overpressure in the apartment.

SYMBOLS FOR VENTILATION PROFILES

The following symbols are used on the main displays of the profiles:
Table 2. Profile symbols

SYMBOL	DESCRIPTION
	The profile in use is either the At home, Away, or Boost profile. The week clock is turned off.
	The profile in use is either the At home, Away, or Boost profile. The week clock is on.
	The Fireplace profile is used. The week clock might be turned on.
	These symbols indicate the fan speed of the currently active profile. The smallest fan icon indicates that the Away profile is in use, and the largest fan icon indicates that the Boost profile is being used.
	Droplet symbols indicate the relative humidity of air. The symbols are: • One drop: — The humidity sensor has been successfully installed and the relative humidity of air is normal. • Two drops — The relative humidity of air is slightly higher than normal. The fan speed will be automatically increased if automatic adjustment is allowed. • Three drops — The relative humidity of air is significantly higher than normal. The fan speed will be automatically increased if automatic adjustment is allowed.
	These symbols indicate the carbon dioxide level in the air. The colour codes are: • Green — The carbon dioxide sensor has been installed and the carbon dioxide level is normal. • Orange — The carbon dioxide level is slightly higher than normal. The fan speed will be automatically increased if automatic adjustment is allowed. • Red — The carbon dioxide level is significantly higher than normal. The fan speed will be automatically increased if automatic adjustment is allowed.

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CHANGING THE PROFILE

If you want to change the ventilation **profile**, proceed as follows:

1. Press the **Change profile** button until the desired ventilation profile icon is displayed in the screen.
2. Wait until the ventilation profile main screen is displayed.
3. The ventilation profile has been changed.

VIEWING THE INFORMATION OF THE AT HOME, AWAY, AND BOOST PROFILES

To view the profile settings:
1. Open the main display of the profile you wish to view.
2. Select **Profile information**.

The following information is shown on the first information display of the profile:

- **Supply air** — Indicates the temperature of the air blown into the building and its set value (in brackets), if the supply air is warmer than the set value.
- **Outdoor air** — Indicates the outdoor temperature.
- **Fan speed** — Indicates the fan speed. If the automatic fan speed boost is turned on, the set value is shown in brackets first followed by the actual fan speed.
- **Cell status** — Indicates the status of the ventilation unit heat recovery cell. The status options are:
  - **Heat recovery** — The heat recovery cell heats the air streaming in from outdoors.
  - **Cooling** — The heat recovery cell cools the air streaming in from outdoors.
  - **Cell bypass** — The inflowing air bypasses the heat recovery cell.
  - **Defrosting** — The heat recovery cell is being defrosted.
3. Proceed to the next phase by selecting the **Right arrow** button.

The next information display of the profile shows the following information:

- **Humidity** — Indicates the highest relative humidity of air measured by the sensors
- **Carbon dioxide** — Indicates the highest carbon dioxide level measured by the sensors
- **Change filters** — Indicates the next recommended filter change date.
- **Days in use** — Indicates how long the unit has been running.
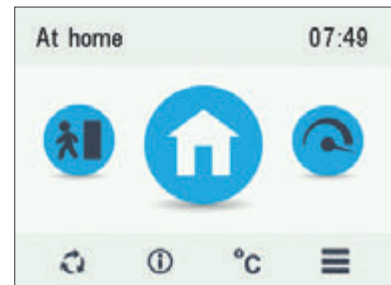
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VENTILATION PROFILES

VIEWING THE FIREPLACE PROFILE INFORMATION

1. Open the main display of the **Fireplace profile**:
2. Select **Profile Information**.
3. The information display shows the following information:
- **Duration** — Indicates the duration of enhanced ventilation when the **Fireplace profile** is activated. The value is shown in hours and minutes.
- **Supply fan speed** — Indicates the percentage of the supply air fan speed relative to the maximum speed.
- **Extract fan speed** — Indicates the percentage of the extract air fan speed relative to the maximum speed.

Fireplace profile	
Fireplace profile	
Duration	00:15
Supply fan speed	50%
Extract fan speed	50%

MODIFYING THE PROFILE SETTINGS

IMPORTANT

The system uses, but does not save the settings automatically. Your settings may be lost during, for example, a power outage. Remember to save your settings by selecting **Expert settings > Save and restore settings**.

MODIFYING THE AT HOME PROFILE SETTINGS

1. Open the **At home** profile main view.
2. Press the **Profile information** button.
3. Press the **Edit button**.
4. The fan speed setup screen is opened.
5. Set the **At home** profile fan speed as a percentage of the maximum by using the **Plus** and **Minus** buttons.
6. Press the **Right arrow** button.
7. The temperature setup screen is opened.
8. Set the desired supply air temperature for the **At home** profile by using the **Plus** and **Minus** buttons. You can adjust the temperature in the range of +10°C — +25°C. The recommended temperature is +15°C or 2—3°C below the room temperature.
9. Press the **Right arrow** button.
10. The setup screen for the automatic fan speed control, based on the relative humidity, appears.
11. Use the **Plus** and **Minus** buttons to select whether the automatic fan speed control, based on the relative humidity, is used or not.
12. Press the **Right arrow** button.
13. The setup screen for the automatic fan speed control, based on the carbon dioxide content, appears.
14. Use the **Plus** and **Minus** buttons to select whether the automatic fan speed control, based on the carbon dioxide content, is used or not.
15. Press the **OK** button.

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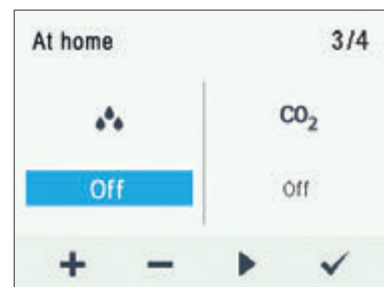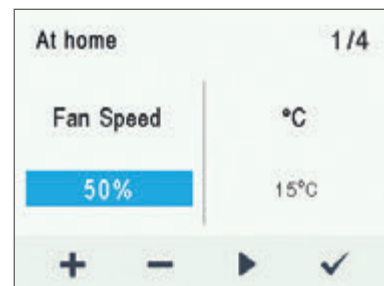
VIEWING TEMPERATURE DATA

1. Select **Settings** > **Temperatures and sensors.**
2. Select **OK**.

The summary display of temperatures and sensors shows the following information:
- **Indoor** — Indicates the temperature of the air flowing into the unit to be removed from the premises.
- **Outdoor** — Indicates the temperature of the air flowing into the unit from outside.
- **Supply** — Indicates the temperature of the air flowing into the premises from the unit.
- **Exhaust** — Indicates the temperature of the exhaust air flowing outdoors from the unit.

TIP

The temperature and sensor data can also be viewed by pressing the temperature button on the profile display.
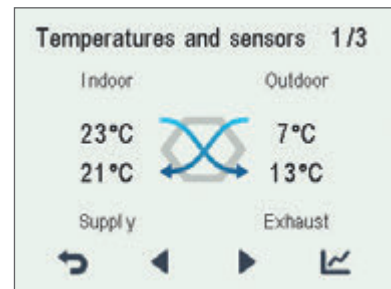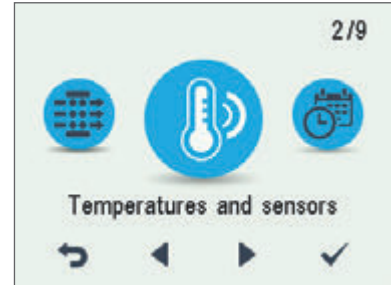
VIEWING TEMPERATURE STATISTICS

1. Select **Settings** > **Temperatures and sensors.**
2. Select **OK.**
3. Select **Statistics.**
4. A graph appears on the display showing the indoor air temperature over the last 24 hours.
5. Use the **Plus** and **Minus** buttons to alternate between weekly and daily statistics.Use the **arrow buttons** to view outdoor air, supply air, and exhaust air temperature statistics.
6. On each display, use the **Plus** and **Minus** buttons to alternate between weekly and daily statistics.
7. To exit the menu, press the **Back** button.

Indoor air
Outdoor air
Supply Air
Exhaust air

1 day
1 week
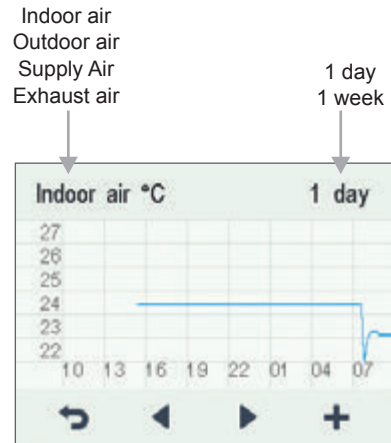
Indoor air temperature graph for the last 24 hours. The outdoor air and supply air values are shown on a similar display. You can view the graph for a week or for a single day.

AIRFLOW
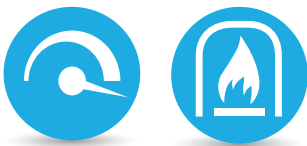
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VIEWING HUMIDITY AND CARBON DIOXIDE VALUES

When you want to view individual humidity and carbon dioxide sensor data, proceed as follows:

1. Select **Settings** > **Temperatures and sensors**.
2. Press the **OK** button.
3. The temperature and sensors summary screen is opened.
4. Press the **Right arrow** button.
5. A screen displaying the maximum humidity value from the air humidity sensors is opened. The value refers to the relative humidity of the air.
6. Press the **Right arrow** button.
7. A screen displaying the maximum humidity value from the air humidity sensors is opened, again.
8. Press the **Right arrow** button.
9. A screen displaying the maximum carbon dioxide value from the air carbon dioxide sensors is opened.
10. Press the **Right arrow** button.
11. A screen displaying the maximum carbon dioxide value from the air carbon dioxide sensors is opened, again.
12. To exit the menu, press the **Back** button.
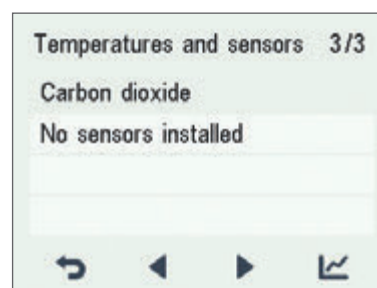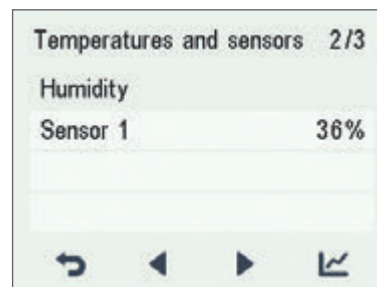
NOTE:

For more detailed instructions, go to www.airflow.com

Temperatures and sensors	2/3
Humidity	
Sensor 1	36%

Temperatures and sensors	3/3
Carbon dioxide	
No sensors installed	

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VIEWING HUMIDITY AND CARBON DIOXIDE STATISTICS

When you want to view statistics on the humidity and carbon dioxide values, proceed as follows:

1. Select **Settings** > **Temperatures and sensors**.
2. Press the **OK** button.
3. The temperature and sensors summary screen is opened.
4. Press the **Right arrow** button.
5. A screen displaying the values of the humidity sensors 1-3 is opened.
6. Press the **Statistics** button.
7. A graph is opened, describing the values from the humidity sensor that gave the largest humidity value over the last 24 hours.
8. If you want to view weekly statistics, press the **Plus** button.
9. A graph is opened, describing the values from the humidity sensor that gave the largest humidity value over the last seven days.
10. You can return to daily statistics by pressing the **Minus** button.
11. You can return to the sensor group selection by pressing the **Back** button.
12. Press the **Right arrow** button twice.
13. A screen displaying the values of the carbon dioxide sensors 1-3 is opened.
14. Press the **Statistics** button.
15. A graph is opened, describing the values from the carbon dioxide sensor that gave the largest carbon dioxide value over the last 24 hours.
16. If you want to view weekly statistics, press the **Plus** button.
17. A graph is opened, describing the values from the carbon dioxide sensor that gave the largest carbon dioxide value over the last seven days.
18. You can return to daily statistics by pressing the **Minus** button.
19. Return to the sensor group selection and exit by pressing the **Back** button twice.

RELATIVE HUMIDITY OF AIR AND CARBON DIOXIDE LEVEL STATISTICS

1 day
1 week

Relative humidity of air statistics for the past 24 hours. You can view the graph for a week or for a single day.

1 day
1 week

Carbon dioxide level statistics for the past week. You can view the graph for a week or for a single day.

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TEMPERATURES AND SENSORS

FILTER SETTINGS

1. Select **Settings** > **Filter**.
2. Select **OK**.
3. The summary display of the filter status shows the following information:
   - **Filter changed** — Indicates the date when the filter was last replaced.
   - **Next reminder** — Indicates the date when a reminder to replace the filter will next be shown.
   - **Reminder interval** — Indicates the filter replacement interval in months.
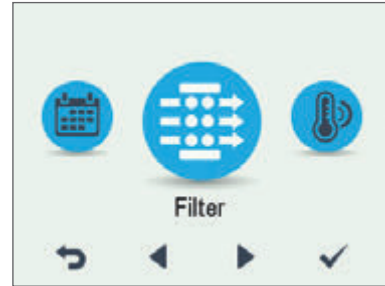
SETTING THE DATE THE FILTER WAS LAST CHANGED

Instructions for changing the filter are provided in the Maintenance section.

After changing the filter, enter the change date.

1. Select **Settings** > **Filter**.
2. Select **OK**.
3. Select **Edit**.
4. Select **Plus** on the Filter status display. The Filter changed value will be changed to Today.
5. Select **OK**.
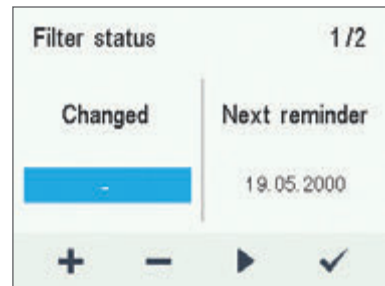
NOTE

Based on the set reminder interval, the unit will automatically set the service to provide a reminder to replace the filter at the due time.

SETTING THE FILTER REPLACEMENT REMINDER INTERVAL

1. Select **Settings** > **Filter**.
2. Select **OK**.
3. Select **Edit**.
4. Select **Right arrow**.
5. Using the **Plus** and **Minus** buttons, set the desired reminder interval in months in the Reminder interval field. The interval value can be between 1 and 12 months. The default setting is 4 months.
6. Select **OK**.

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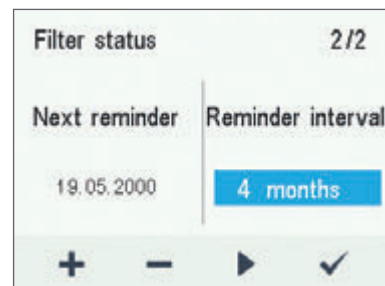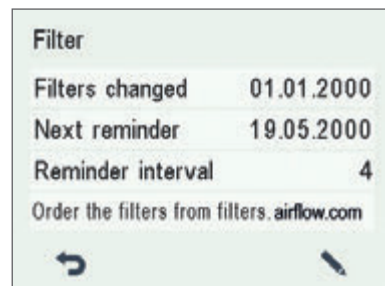
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FILTER MAINTENANCE REMINDER

The maintenance reminder reminds you of the filter replacement with a pop-up window.
The message can be accepted by selecting OK.
Press the clock button to postpone the reminder for one week.
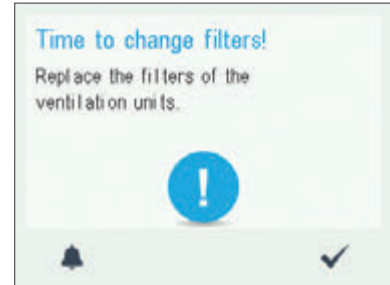
DISPLAY SETTINGS

SETTING THE SLEEP TIME

The control panel automatically switches to sleep mode when the pre-set sleep time has elapsed. To set the sleep time, proceed as follows:
1. Select **Settings** > **Display settings**.
2. Press the **OK** button.
3. The Display settings 1/2 screen appears.
4. Use the **Plus** and **Minus** buttons to set the sleep time.
5. Press the **OK** button
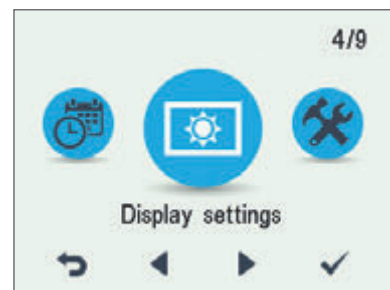
i **TIP**

The control panel automatically switches to sleep mode when the pre-set sleep time has elapsed. If you want to wake up the control panel, press any button on the control panel.
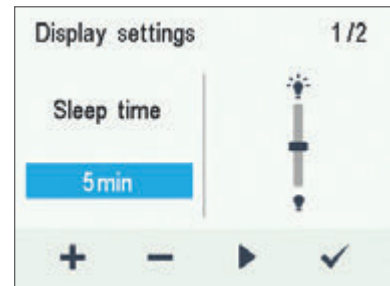
ADJUSTING THE DISPLAY BRIGHTNESS

When you want to set the display brightness, proceed as follows:
1. Select **Settings** > **Display settings**.
2. Press the **OK** button.
3. The Display settings screen appears.
4. Press the **Right arrow** button.
5. The Display settings 2/2 screen appears.
6. Use the **Plus** and **Minus** buttons to set the display brightness.
7. Press the **OK** button.
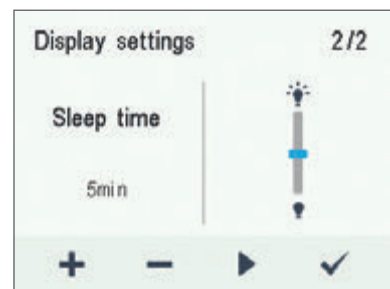
SELECTING THE USER INTERFACE LANGUAGE

You can select the user interface language as follows:
1. Select **Settings** > **Language**
2. Press the **OK** button.
3. Select the language you want, for example, English.
4. Press the **OK** button.
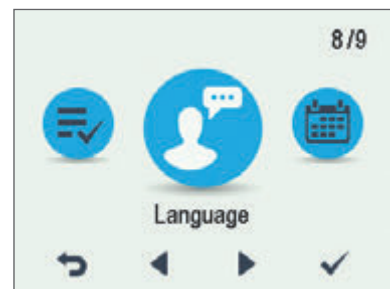
Adroit™ DV245

SETTINGS

TIME AND DATE

SETTING THE TIME AND DATE

The available time settings are:
- Time
- **24 or 12-hour clock**
- Automatic daylight-saving time
- Date

NOTE
The unit time will withstand a power cut of a few hours.
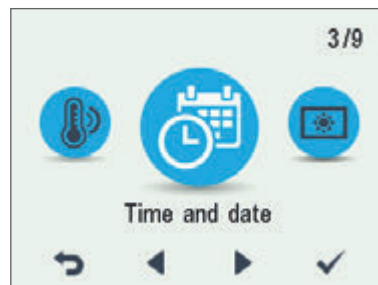
SETTING THE TIME

1. Select **Settings** > **Time and date**.
2. Select **OK**.
3. Use the **Plus** and **Minus** buttons to set the hours.
4. Select **Right arrow**.
5. Use the **Plus** and **Minus** buttons to set the minutes.
6. Select **OK**.
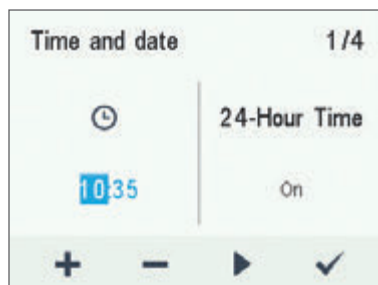
SELECTING THE 24- OR 12-HOUR CLOCK

The **24-hour clock** is used by default. To use the **12-hour clock**:
1. Select **Settings** > **Time and date**.
2. Select **OK**.
3. Press **Right arrow** until the 1/4 display opens
4. Select **Minus**. The **24-Hour** setting value is changed to Off.
5. Select **OK**.
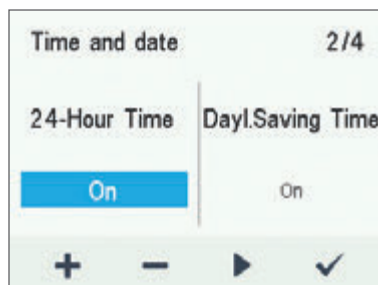
AUTOMATIC DAYLIGHT-SAVING TIME

By default, automatic daylight-saving time is turned on. To use the manual daylight saving time setting:

1. Select **Settings** > **Time and date**.
2. Select **OK**.
3. Press the **Right arrow** until the 3/4 display opens.
4. Select **Plus**. The **Dayl.Saving Time** setting value is changed to **Off**.
5. Select **OK**.
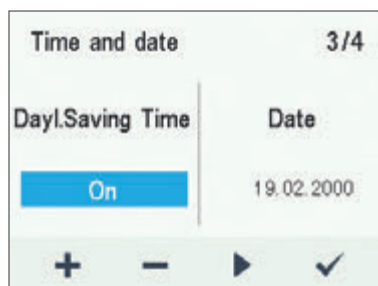
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SETTING THE DATE

1. Select **Settings** > **Time and date**.
2. Select **OK**.
3. Press the **Right arrow** until the 4/4 display opens.
4. Use the **Plus** and **Minus** buttons to set the date.
5. Select Right arrow.
6. Use the **Plus** and **Minus** buttons to set the month.
7. Select **Right arrow**.
8. Use the **Plus** and **Minus** buttons to set the year.
9. Select **OK**.
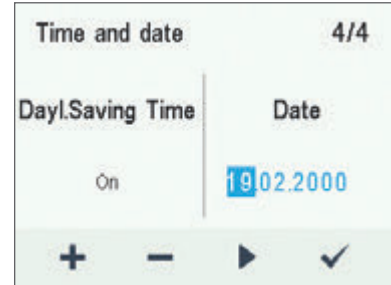
WEEK CLOCK

The week clock allows you to pre-set a weekly ventilation program for the ventilation unit. For each hour of the week, one of the following profiles can be configured:

- **At home** — The At home profile is used.
- **Away** — The Away profile is used.
- **Boost** — The Boost profile is used.
- **Blank** — Do not change the profile.
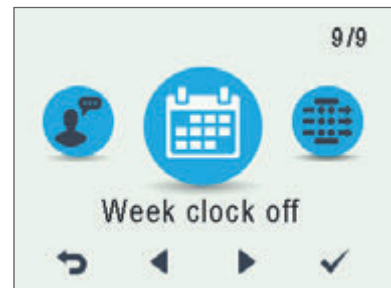
NOTE

If you change the profile manually when the week clock is on, the selected profile will be active until the week clock switches to the next profile in the program.

If the humidity or carbon dioxide sensors control the ventilation, they will adjust the fan speed, regardless of whether the profile has been manually selected or selected by the week clock.

TIP

You can turn the week clock on or off by pressing the **OK** button on the **Week clock** display for a few seconds.

TURNING THE WEEK CLOCK ON

1. Select **Settings** > **Week clock off**.
2. Select **OK**.
3. Select **Settings**.
4. Select **Week clock on**.
5. Select **Select**.
6. The control panel confirms that the week clock is turned on.
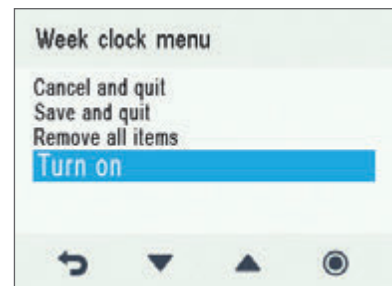
SETTINGS

WEEK CLOCK

SETTING AND EDITING THE WEEKLY PROGRAM

1. Select **Settings** > **Week clock On**.
2. Select **OK**.
3. Use the **Right arrow** button to select the desired day.
4. Use the **Down arrow** button to select the desired time.
5. Use the **Select button** to browse and select the ventilation profile that will be turned on at the chosen time. The icons are:

   🏠 **At home** profile.

   🧍 **Away** profile.

   🌀 **Boost** profile.

6. Once you have selected the profiles for the week clock, select **Settings**.
7. Select **Save and quit**, or select **Cancel and quit** to leave without saving the week program or the changes made to it.
8. Once you have saved the week clock program, select **OK** on the **confirmation display**.
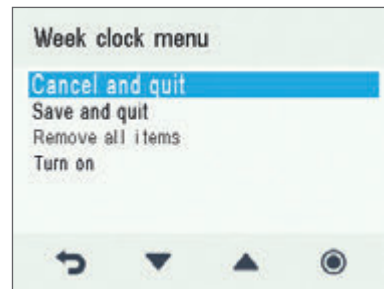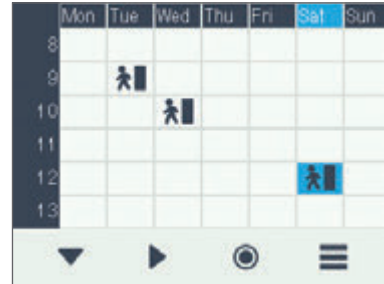
TURNING OFF THE WEEK CLOCK

1. Select **Settings** > **Week clock on**.
2. Select **OK**.
3. Select **Settings**.
4. Select **Turn off**.
5. Select **Select**.
6. The control panel will confirm that the week clock is turned off.
7. The week clock is now turned off. If you have set a weekly program, it will be saved in the unit.
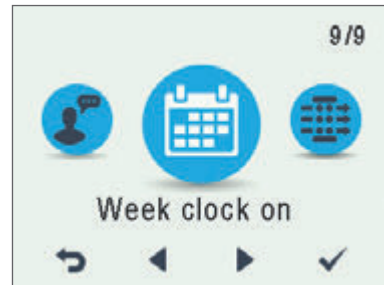
DISABLING THE WEEK CLOCK

If you want to disable the week clock, proceed as follows:
1. Select **Settings** > **Week clock**.
2. Press the **OK** button.
3. Press the **Settings** button.
4. The Week clock menu appears.
5. Select Turn **OFF**.
6. Press the **Select** button.
7. A confirmation screen is opened.
8. The week clock is now disabled. If you have set a weekly program, it will be saved in the system.
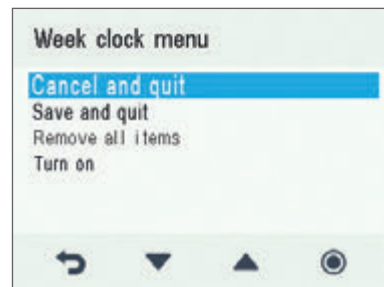
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EXAMPLE OF SETTING A WEEKLY PROGRAM

In this example, the following weekly program has been set:

- Mon-Fri 08:00-17:00, *Away* from home.
- Mon-Fri 17:00-08:00, *At home*.
- Sat 08:00-18:00, *At home*.
- Sat 18:00-21:00, *Boost* that might be needed for cooking.
- Sat 21:00 - Mon 08:00, *At home*.

To set the week clock:

1. Open the Week clock.
2. Select Monday, and input the following settings:
   - For 08:00, select the *Away* profile.
   - For 17:00, select the *At home* profile.
3. Then input the corresponding settings for the other weekdays.
4. Then select Saturday, and input the following settings:
   - At 18:00, select the *Boost* profile.
   - At 21:00, select the *At home* profile.
5. Ensure that the week clock is turned on.
6. The weekly program has now been set.
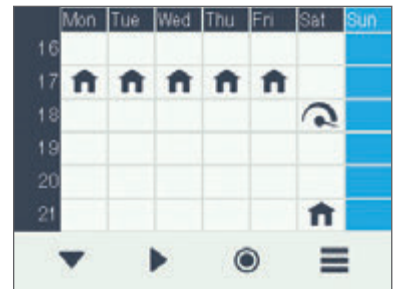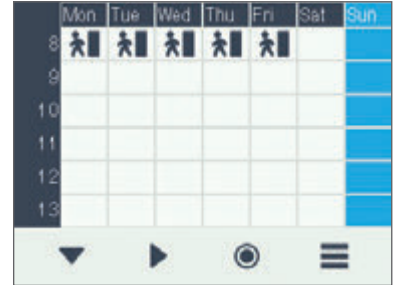
The figures above show the aforementioned settings in the week clock.

TURNING THE UNIT OFF

To turn the ventilation unit off:
1. Select **Settings> Turn unit off.**
2. Select **OK**.
3. Accept the command by selecting **OK.**
4. The ventilation unit has now been turned off.
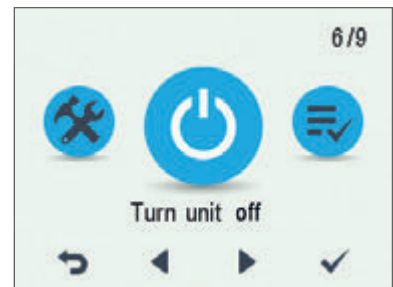
NOTE

It is recommended that the ventilation be kept on at all times to ensure that the indoor air remains fresh and presents no threat to health or to the structures of the building. In order to prevent humidity from condensing in the ventilation ducts and structures, it is not advisable to turn the ventilation off even during longer holidays.

TIP

To re-start the ventilation unit, press any key.
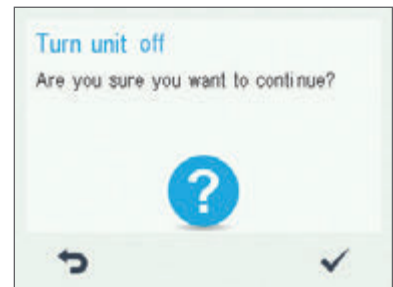
MAINTENANCE

BEFORE BEGINNING MAINTENANCE WORK

The safety switch automatically turns off the power when the upper door of the unit is opened. Always disconnect the power plug before starting the ventilation unit maintenance.

OPENING AND CLOSING THE DOORS

1. Turn the latches to open the upper door of the ventilation unit.
2. Lift off the door.
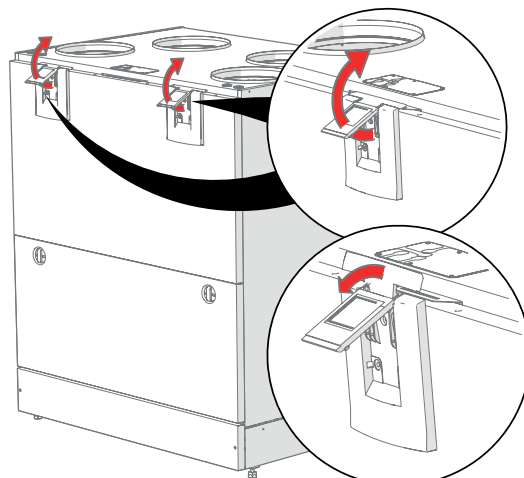
NOTE

Caution: the door is heavy.

3. Open the lower door of the ventilation unit by undoing the finger screws.
4. Lift the lower door off.
5. Close the doors in reverse order.
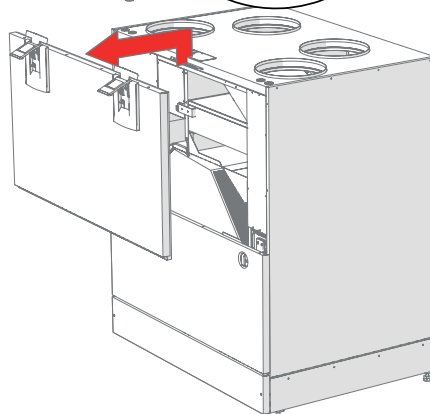
There are two unit models, left- (L) and right-handed (R). The figure shows the right-handed model.

FILTERS

When the maintenance reminder becomes activated, check the cleanliness of the filters and replace them if required.
The Adroit ventilation unit has three air filters:
• Class G4 coarse filter filters insects, heavy pollen and other relatively large foreign objects out of the outdoor air.
• Class F7 fine filter filters microscopic pollen and dust particles out of the supply air.
• The coarse filter filters the extract air and keeps the heat recovery cell clean.

The filter change interval depends on the ambient dust concentration. It is recommended that the filters be changed every spring and autumn, or at the very least once a year.
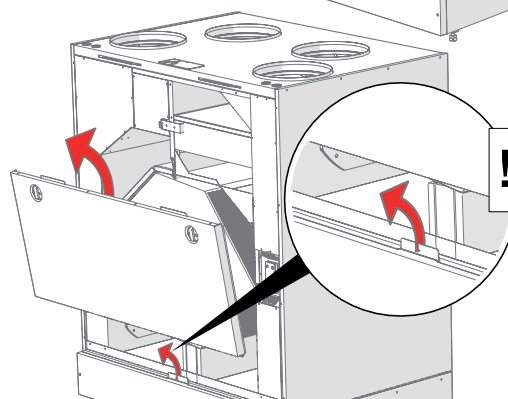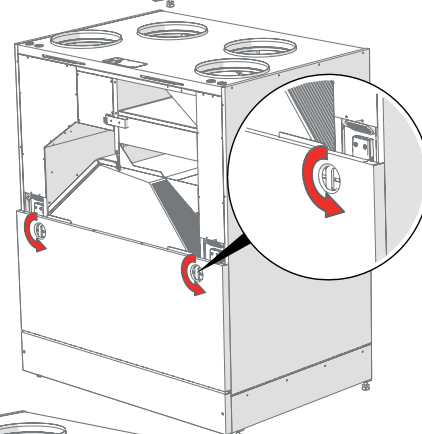
TIP

Using original Airflow filters ensures that the ventilation unit remains in top condition, giving the best results.

Adroit™ DV245

To change the filters:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Open the upper door of the unit.
3. Remove the old filters (A, B, C) and discard them.
4. Install the new filters (A, B, C).
5. Close the door of the unit. Ensure that the safety switch of the door is engaged, allowing the unit to be turned on.
6. Plug the ventilation unit back into the mains.
7. The filters have now been successfully changed.
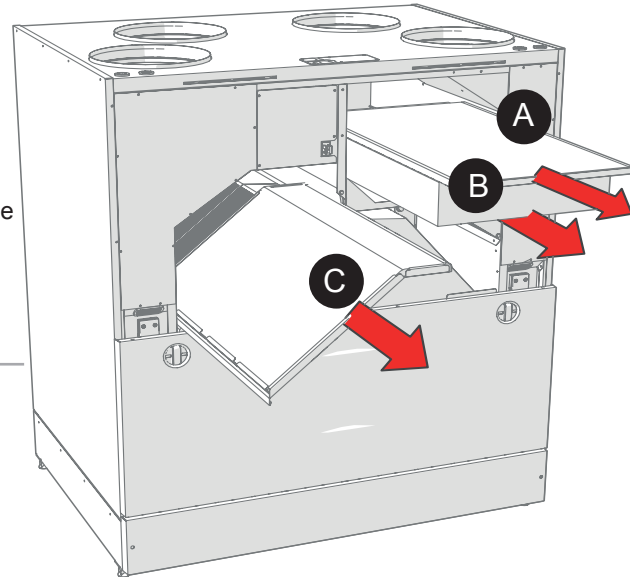
HEAT RECOVERY CELLS

Check that the heat recovery cells are clean every two years, or whenever the filters are being changed.

NOTE

If the unit has an enthalpy cell, it must not be washed. Only aluminium or plastic cells can be washed.

To check and clean the heat recovery cell:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Open the doors of the unit.
3. Remove the filters (A, B, C).
4. Remove the support grid of the filters.
5. Disengage the upper support strip (D) of the cell.
6. Lift and pull the cell (E) out of the unit.
7. If the cell is dirty, clean it by immersing it in warm water, to which a small amount of a mild detergent has been added.
8. Rinse the cell clean with water spray. Do not use a high-pressure cleaner.
9. When all the water has drained from between the plates, reassemble the ventilation unit in the reverse order.
10. Close the doors and plug the unit back into the mains.
11. The heat recovery cell has now been checked and cleaned.
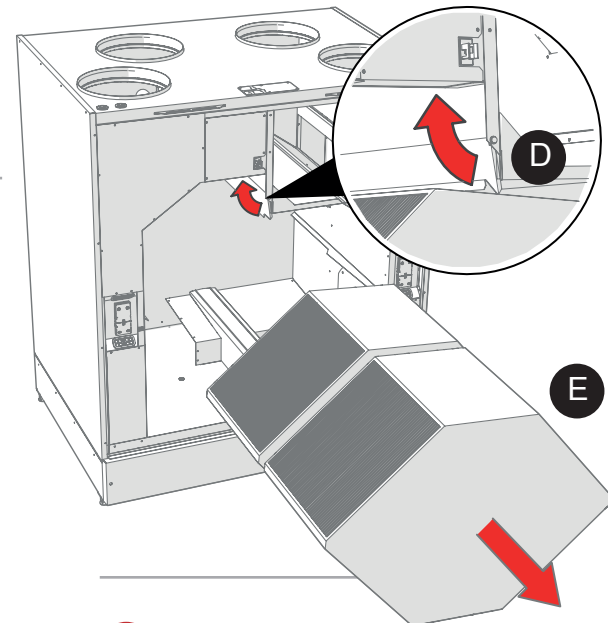
WARNING

Handle the cells carefully! Do not lift the cells by the plates, as the cell plates are very fragile.

MAINTENANCE

FANS

Check the cleanliness of the fans when servicing the filters and the heat recovery cell. Clean the fans as required.

You can clean the fan blades with compressed air or by brushing them gently.
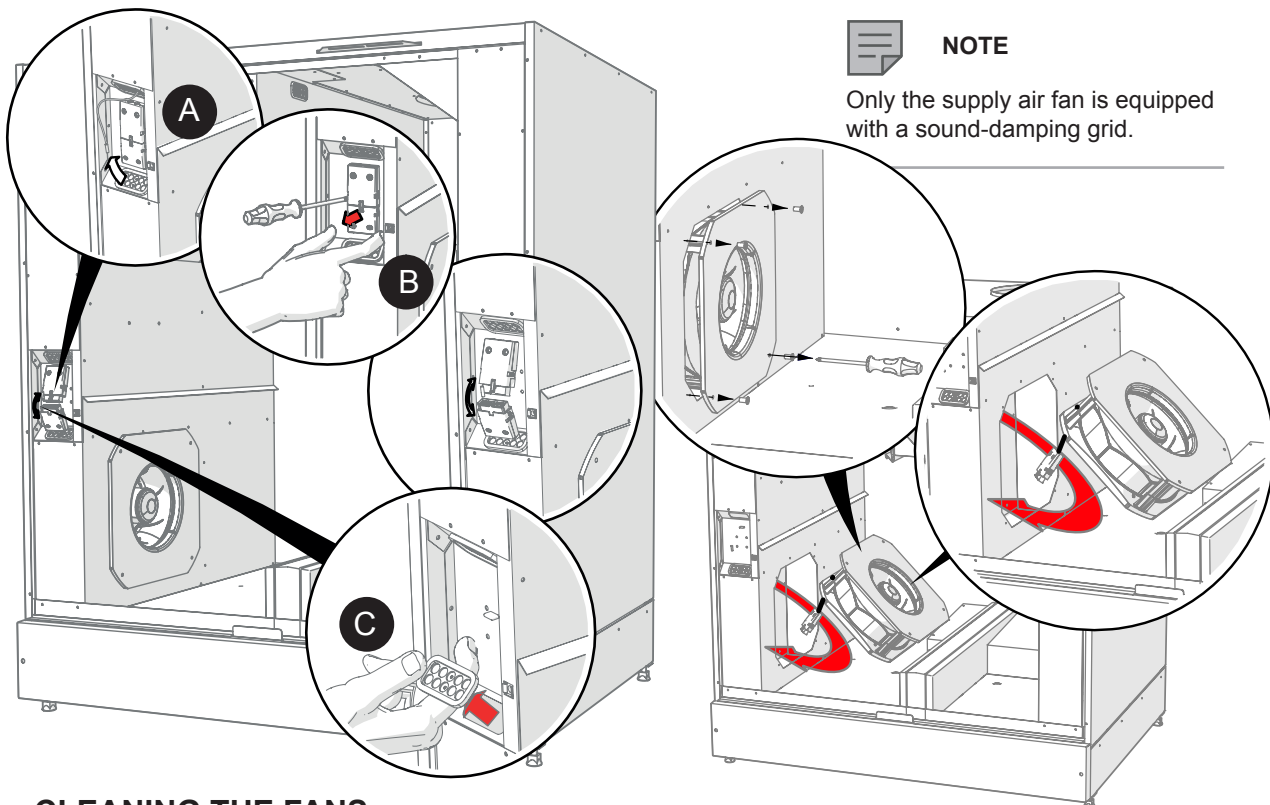
CLEANING THE FANS

To clean the supply air fan:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Open the doors of the unit.
3. Pull the temperature sensor out of the rubber feed through (A).
4. Disconnect the quick connector (B) of the fan cables.
5. Remove the rubber feed through (C).
6. Undo the fan's mounting screws.
7. Pull the fan out of its housing.
8. Clean the fan.
9. To reassemble the ventilation unit, follow the above steps in reverse order.
10. Close the doors and plug the unit back into the mains.
11. The fan has now been checked and cleaned.

Clean the extract air fan in the same way. The extract air fan is located symmetrically on the opposite side of the unit.

⚠ **WARNING**

The fans are extremely sensitive to external shocks, and to minimize risk of damage to them we recommend that the fans be cleaned in place, i.e. without attempting to remove them.

⚠ **WARNING**

Remember to replace the temperature sensor by feeding it through the rubber feed.

Adroit™ DV245

REMOVING THE ELECTRIC HEATER

To remove the heater:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Open the doors of the unit.
3. Open the heater box by undoing the mounting screws (10 PZ2 screws).
4. Remove the quick connector of the heater:
   a. Press down the locking device.
   b. Pull off the connector.
5. Undo the two wing nuts connecting the heater to the ventilation unit.
6. Lift the heater out of the ventilation unit.
7. To reassemble the ventilation unit, follow the above steps in reverse order.

10 x

2 x
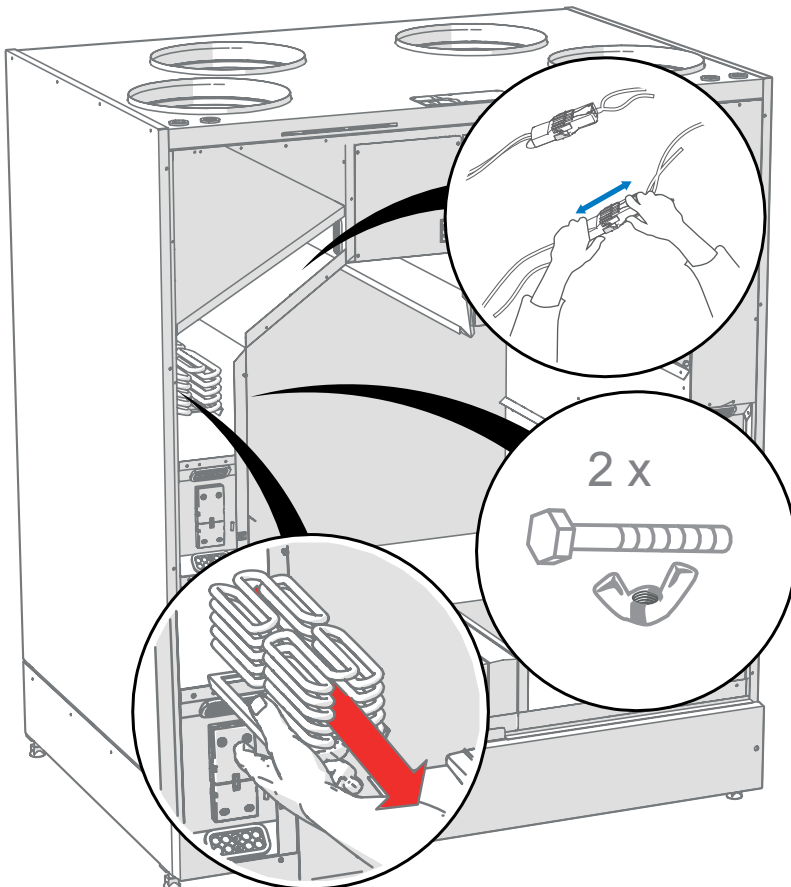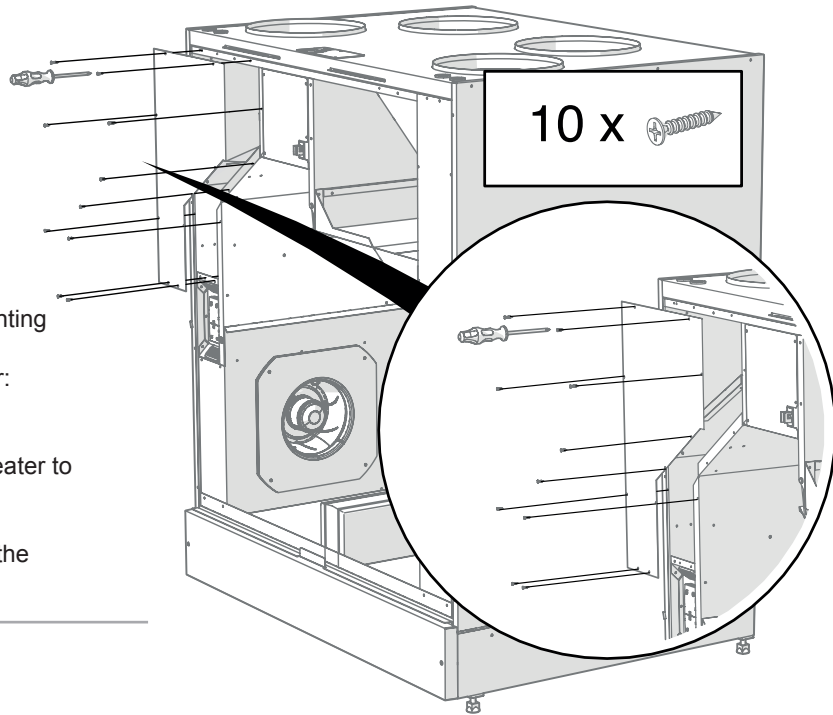
! WARNING

Connect the cables so that they do not touch the heater.
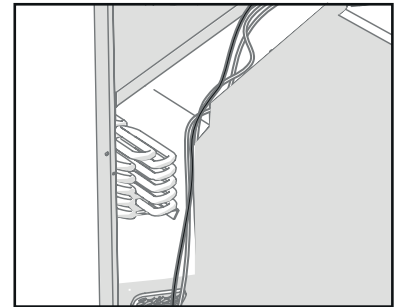
! WARNING

Before removing the heater from the unit, make sure it is not hot.

MAINTENANCE

Adroit DV245

TROUBLESHOOTING

FAULT	CAUSE	MEASURES
Message on the user interface: Extract fan stopped	The extract air fan has stopped.	Make sure that the fan is not running. The fan cabling and operation must be checked, and if necessary the fan must be replaced. Contact the service centre.
Message on the user interface: Supply fan stopped	The supply air fan has stopped.	Make sure that the fan is not running. The fan cabling and operation must be checked, and if necessary the fan must be replaced. Contact the service centre.
Message on the user interface: Cell has frozen	The heat recovery cell has become excessively cold.	Conduct a manual defrost through the control panel (Service menu > Cell defrost). Try to discover why the heat recovery cell is frozen.
Message on the user interface: Temperature sensor 1/2/3/4/5	The temperature sensor indicated on the user interface is damaged.	The sensor installation must be checked, and if required the sensor must be replaced. Contact the service centre.
Message on the user interface: External sensor	The external temperature sensor is damaged.	The sensor installation must be checked, and if required the sensor must be replaced. Contact the service centre.
Message on the user interface: Post-heater	The post-heater does not heat	The heater installation must be checked, and if required the heater must be replaced. Contact the service centre.
Message on the user interface: Bus fault	Problems with the data transfer bus.	Make sure that the Modbus bus is connected correctly, and that the devices connected to it are properly functioning.
The ventilation unit is not working; the control panel is not working.	Power input to the unit is lost	Check: • Fuse in the fusebox • Fuse in the unit
The ventilation unit is working, but the control panel is not working.	Either the control panel 24 VDC power is lost, or the control panel is damaged.	Check the cables from the unit to the control panel. Contact the service centre if necessary.

CONDENSING WATER

MAINTENANCE OF THE CONDENSING WATER OUTLETS

In the heating season, the extract air humidity condenses to water. In new buildings, condensation runoff can form rapidly. Condensed water must be able to freely leave the unit. At some time before the heating season begins (e.g. during autumn maintenance), check that the condensing water outlets in the bottom pool are not clogged and that there are no leakages. To check this, pour some water into the pool. Clean as required. Check where the condensing water outlets are in the Installation section.

NOTE

Some condensing water may have accumulated in the bottom pool of the unit; this is normal and requires no corrective action.

WARNING

Water must at all times be kept out of the electrical system.

Adroit DV245

INSTALLING THE CONDENSING WATER OUTLETS

1. Open the doors of the unit.
2. Remove the front panel of the base by undoing the two hexagon screws.
3. Remove the body of the condensing water outlet (A) from the housing (B) and remove the tension pin (C).
4. Push the main body of the condensing water outlet downward from above, through the hole in the bottom plate of the ventilation unit.
5. Push the tension pin downward from below towards the main body.
6. Place the valve ball inside the housing of the condensing water outlet.
7. Attach the housing to the condensing water outlet.
8. Install the second outlet in the same way.
9. To reassemble the ventilation unit, follow the above steps in reverse order.

⚠ WARNING

Water must not be allowed to enter the electrical system.
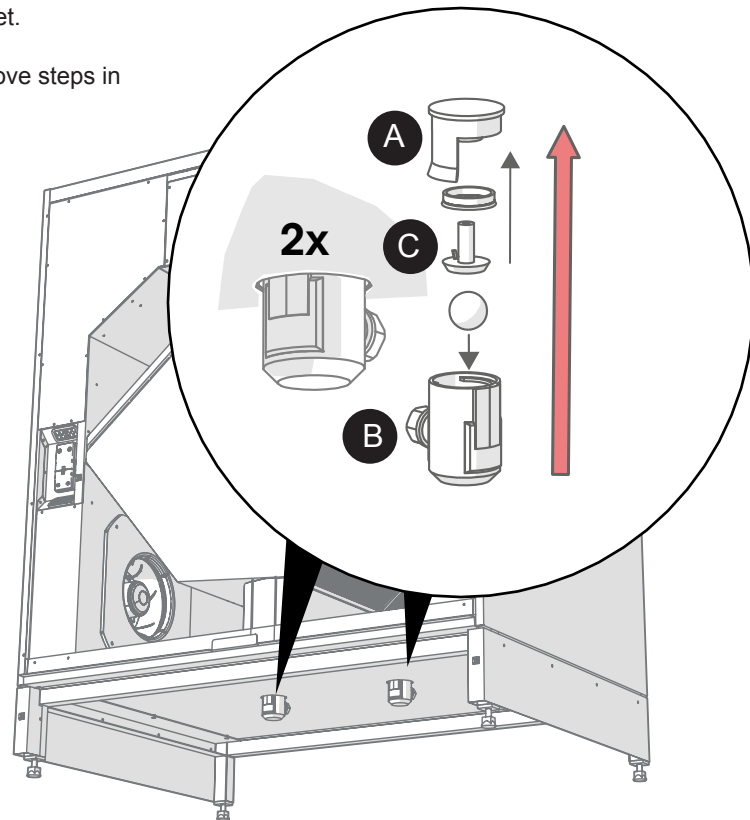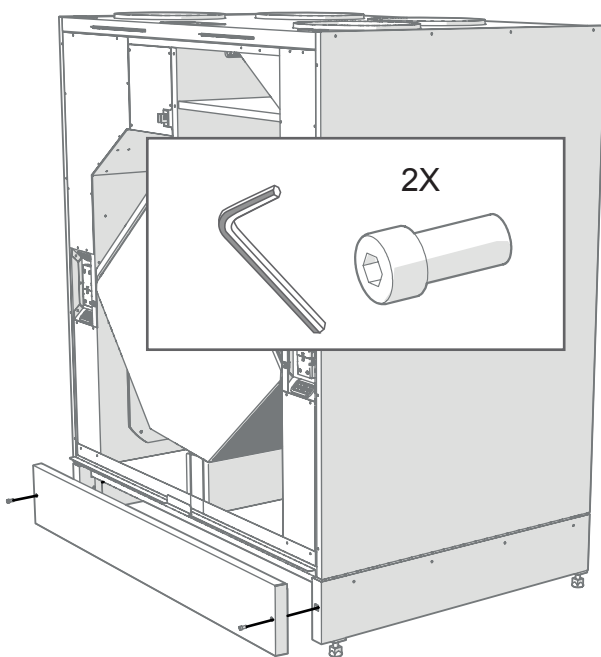
MEASURING TUBES

The accessories delivered with the unit include four airflow measuring tubes. These can be inserted in the ducts to allow for easier ventilation adjustment.
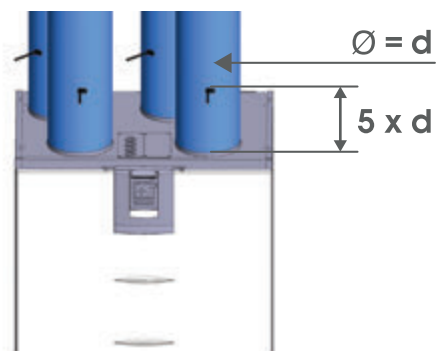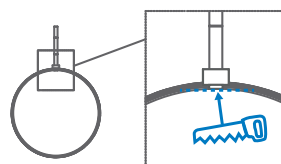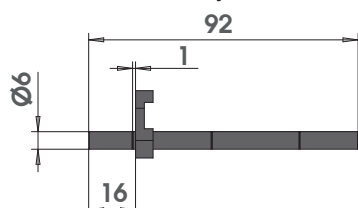
TECHNICAL SPECIFICATIONS DV245 ADROIT

TECHNICAL SPECIFICATIONS DV245 ADROIT

Product codes **Adroit DV245 R** **Adroit DV245 L**	Product number 90000582 90000583
Air volumes Supply Air Extract Air	245 l/sec, 100 Pa 267 l/sec, 100 Pa
Electrical connection	230V, 50Hz 14.5 A (power plug)
Enclosure protection class	IP 34
Optional Post-heating radiator	Power, 1500 W
Preheating radiator	-
Additional heating radiator	Power, 1500 W
Fans Supply Air Extract Air	0.17 kW 1.25 A 0.17 kW 1.25 A
Operating efficiencies	Supply air efficiency 85%
Filters	Supply Air G4 and F7
Heat recovery bypass	Automatic
Weight	200 kg

FAN INPUT POWER
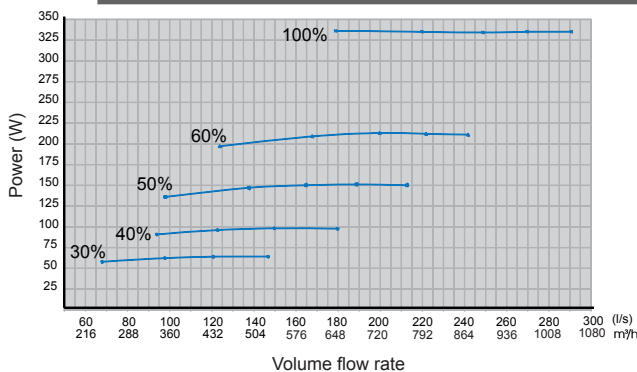
SFP rate (Specific Fan Power)
recommended value <2.0 (kW m³/s)

$$SFP = \frac{\text{Input power (total W)}}{\text{Airflow specified in the ventilation plan (extract l/s)}}$$

SUPPLY / EXTRACT AIR VOLUMES
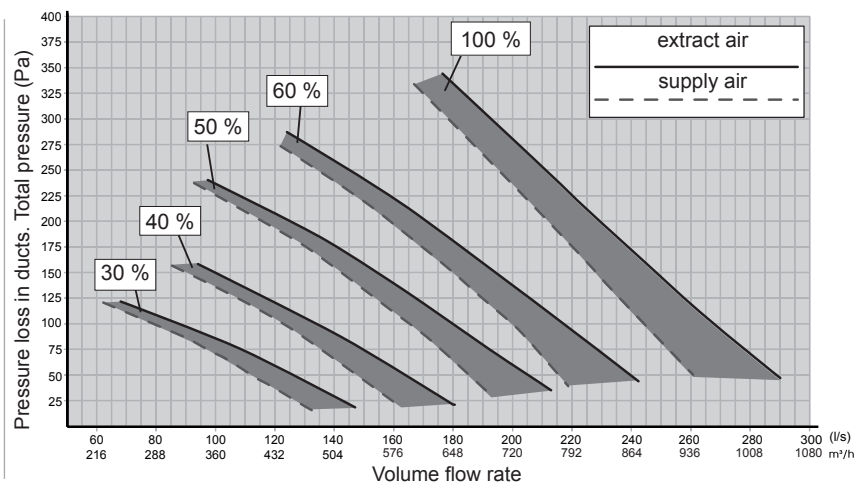
SOUND VALUES

		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		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 m³/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 (10m² 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 m³/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

Adroit™ DV245

TECHNICAL SPECIFICATIONS DV245 ADROIT

MAIN PARTS
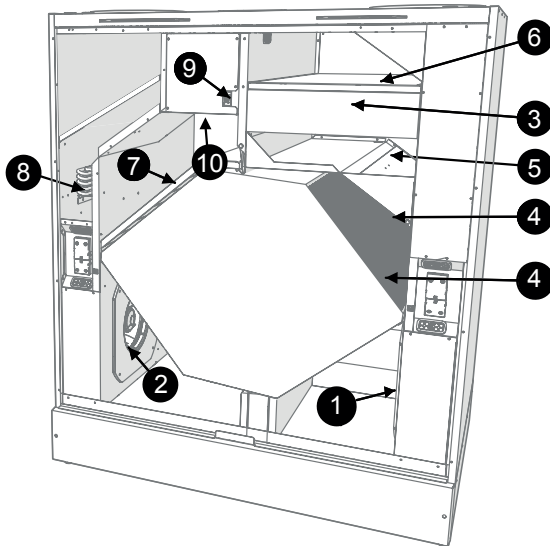
Model R in the figure.
In the L model, the parts are mirrored

1	Extract air fan	6	Outdoor air filter G4
2	Supply air fan	7	Extract air filter G4
3	Outdoor air filter F7	8	Optional Post-heating radiator
4	Heat recovery cell	9	Safety switch
5	Summer/winter damper	10	Internal humidity sensor (behind the electric box)

MEASUREMENT POINTS
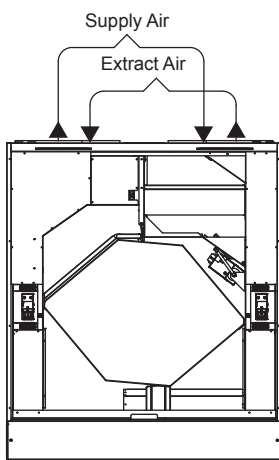
Measurement points after the connection outlet.
The fan curves indicate the total pressure
accounted for by duct losses.

DIMENSIONS AND DUCT OUTLETS

Dimensions
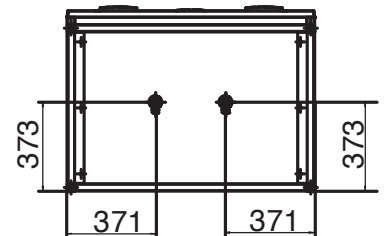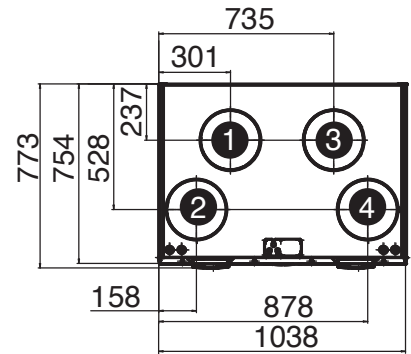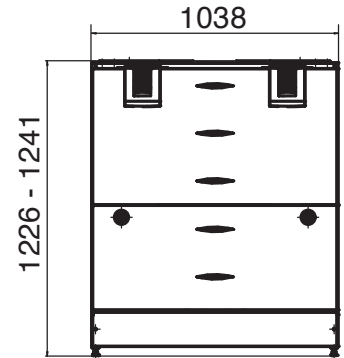
DUCT OUTLETS

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

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

Adroit™ DV245

TECHNICAL SPECIFICATIONS DV245 ADROIT

CABLE COLOURS	
BK	Black
BU	Blue
BN	Brown
WT	White
GY	Grey
YE	Yellow
YEGN	Yellow-green

230 V 50 Hz

MOTHERBOARD

AHS
S/E
RH%

LAN

1. Extract Air
2. Outdoor air
3. Supply Air
4. Exhaust air
5. Supply air from the cell

TESTER

1. Extract fan tacho (WT)
2. GND (GN)
3. Extract fan PWM (YE)
4. Supply fan tacho (WT)
5. GND (GN)
6. Supply fan PWM (YE)

MB_A	External Modbus A signal	**S**	Supply air fan
MB_B	External Modbus B signal	**P**	Extract air fan
+24V	+24V direct current voltage (DC)	**M**	Damper actuator CM230-R
GND	Digital and analog ground potential	**TK**	Safety switch
RS_A	Local hardware Modbus A signal	**AHS**	Post-heating control
RS_B	Local hardware Modbus B signal	**S/E**	Fan balance adjustment
NTC	External temperature sensor connector	**RH%**	Internal humidity sensor
D/I1	Digital input 1	**R1**	Post-heating radiator with 90°C and 130°C overheating protection
D/I2	Digital input 2		
11V1	11.1V volt operating voltage	**R2**	Additional heating radiator with 90°C and 130°C overheating protection
AN/I	AN/I = Analog input 0-10VDC		
RM/I	24V relay input		
RM/O	24V relay output		

Adroit™ DV245

EXTERNAL ELECTRICAL CONNECTION
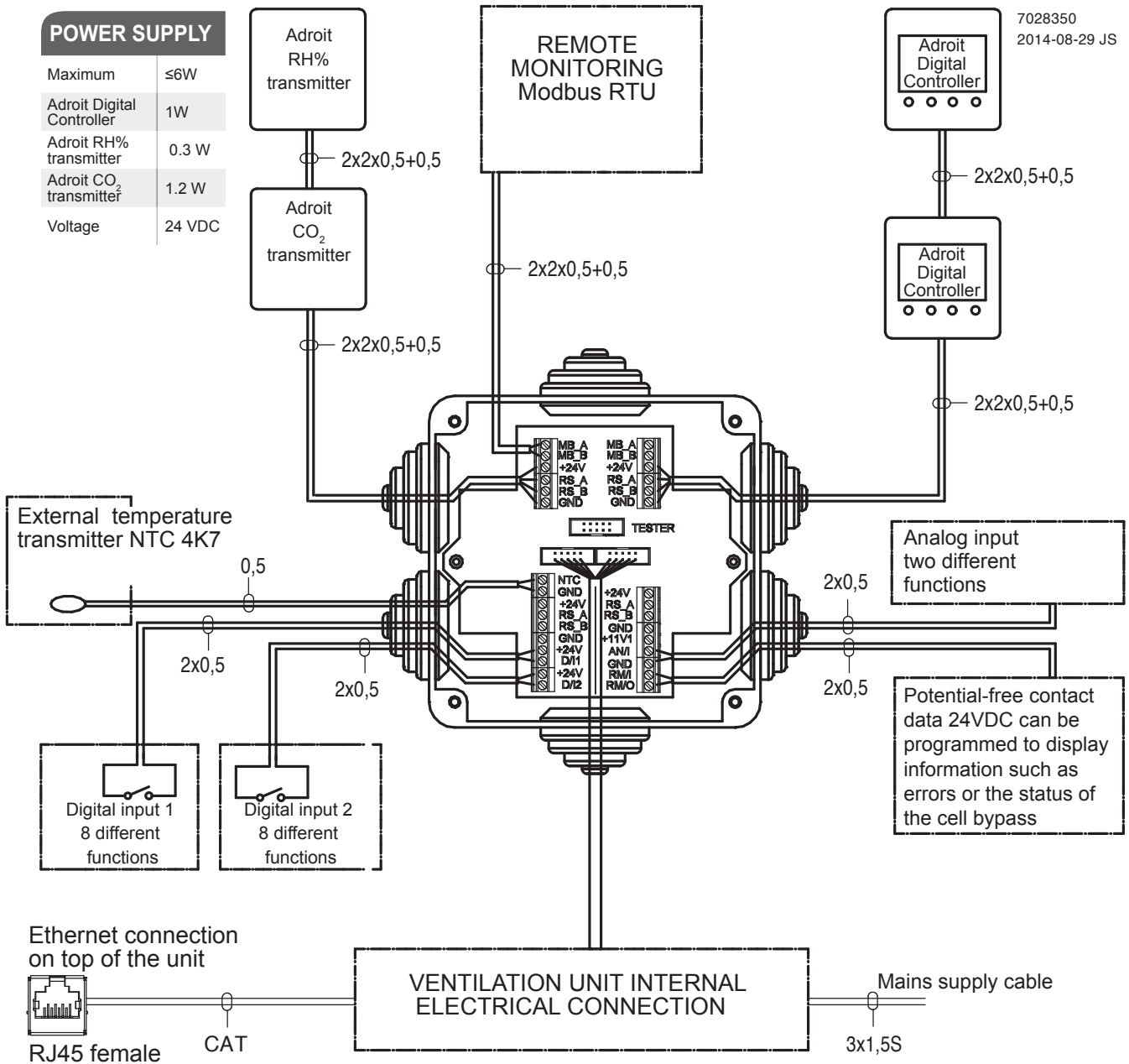
POWER SUPPLY	
Maximum	≤6W
Adroit Digital Controller	1W
Adroit RH% transmitter	0.3 W
Adroit CO_2 transmitter	1.2 W
Voltage	24 VDC

7028350
2014-08-29 JS

Adroit RH% transmitter
Adroit CO_2 transmitter
2x2x0,5+0,5
2x2x0,5+0,5

REMOTE MONITORING Modbus RTU
2x2x0,5+0,5

Adroit Digital Controller
2x2x0,5+0,5
Adroit Digital Controller
2x2x0,5+0,5

External temperature transmitter NTC 4K7
0,5
2x0,5
2x0,5

Analog input two different functions
2x0,5

Potential-free contact data 24VDC can be programmed to display information such as errors or the status of the cell bypass
2x0,5

Digital input 1 8 different functions
Digital input 2 8 different functions

Ethernet connection on top of the unit
RJ45 female
CAT

VENTILATION UNIT INTERNAL ELECTRICAL CONNECTION

Mains supply cable
3x1,5S

MB_A	External Modbus A signal		D/I1	Digital input 1
MB_B	External Modbus B signal		D/I2	Digital input 2
+24V	+24V direct current voltage (DC)		11V1	11.1 V operating voltage
GND	Digital and analog ground potential		AN/I	AN/I = Analog input 0-10VDC
RS_A	Local hardware Modbus A signal		RM/I	24V relay input
RS_B	Local hardware Modbus B signal		RM/O	24V relay output
NTC	External temperature sensor connector			

EXTERNAL ELECTRICAL CONNECTION FOR CONTROLLING THE LIQUID RADIATOR

Adroit™ DV245
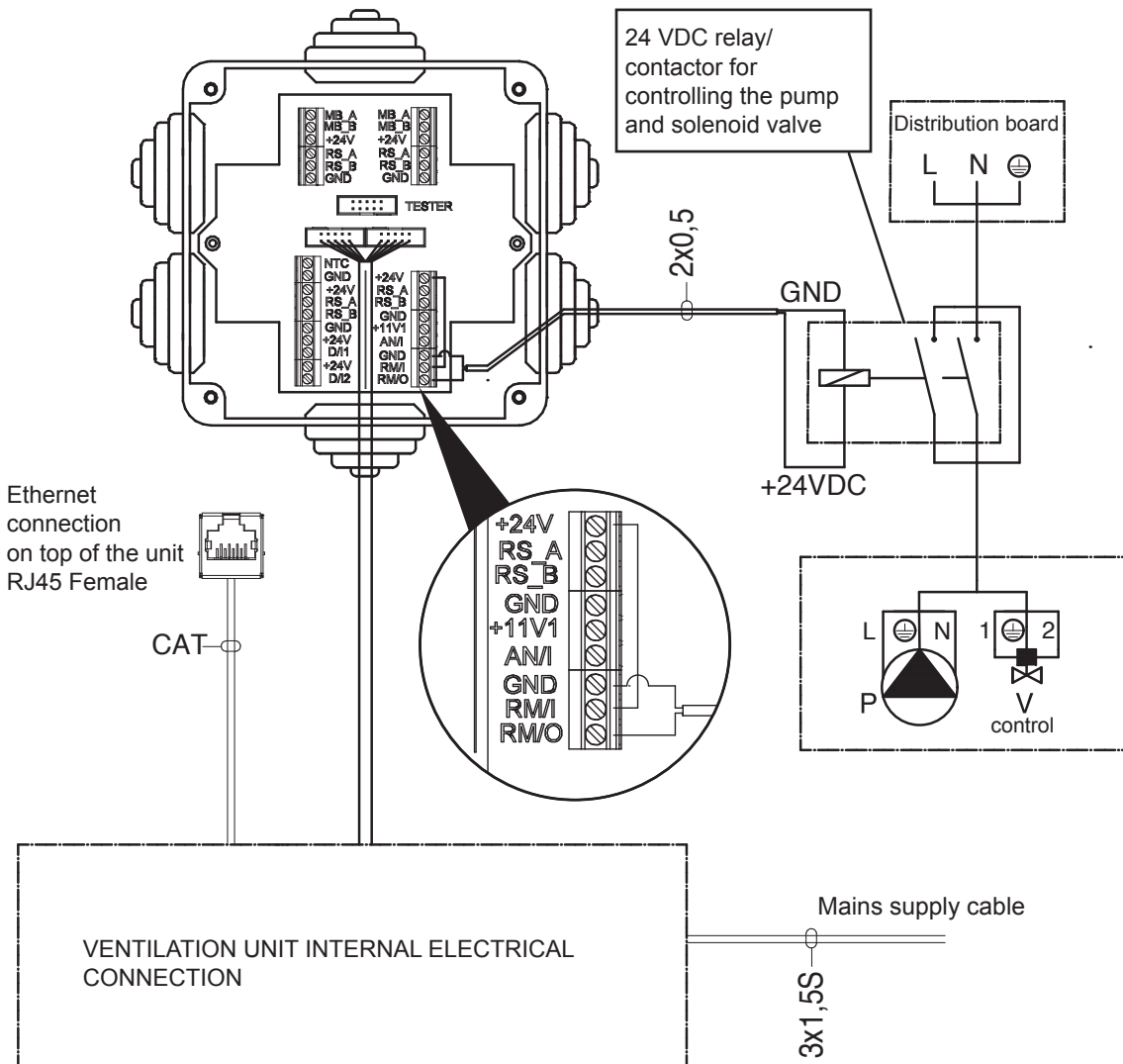
+24V	+24V direct current voltage (DC)
GND	Digital and analog ground potential
RS_A	Local hardware Modbus A signal
RS_B	Local hardware Modbus B signal
11V1	11.1 V operating voltage
AN/I	AN/I = Analog input 0-10VDC
RM/I	24V relay input
RM/O	24V relay output
P	Circulation pump
V	Solenoid valve

Adroit™ DV245
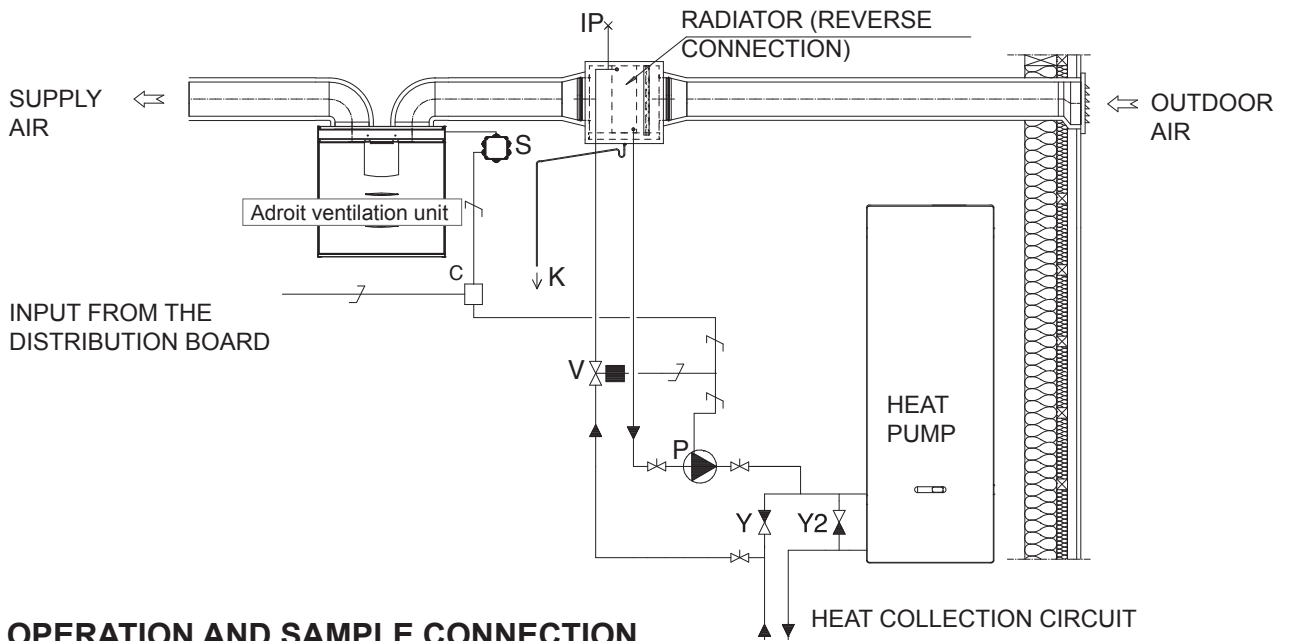
OPERATION AND SAMPLE CONNECTION

Always follow first and foremost the connection diagram provided by the HVAC designer or heat pump manufacturer. The accompanying figure shows an example of the arrangement for connecting the heating/cooling radiator unit to the heat collection circuit.

Connect the radiator output pipe to the heat collection circuit return pipe. Direct the fluid returning from the radiator unit to the heat collection circuit return pipe. If you know that there is a large loss of internal pressure inside the heat pump, the heat pump should be bypassed. If this is done, the fluid circuit will come into operation when the heat pump comes to a halt. When this happens the pressure loss in the one-way bypass valve Y2 must be lower than the pressure loss in the heat pump.

E	Circulation pump. Not included in the delivery. The pump should be suited to pumping liquid colder than the surrounding air, due to risk of condensation (for example, Grundfos Magna 1 25-80).
V	Solenoid valve. Not included in the delivery. The valve that is chosen must be compatible with the heat collection circuit fluid.
K	Condensing water tube. Not included in the delivery.
IP	De-aerator. Not included in the delivery.
S	External electrical junction box for the DV245.
C	24 VDC relay/contactor for controlling the pump and the solenoid valve. Not included in the delivery. (For example, ABB CR-P024DC2)
Y	One-way valve. Not included in the delivery.
Y2	One-way valve. Not included in the delivery. The pressure loss must be less than the pressure loss of the heat pump.

NOTE: HEATING

The pump starts when the outdoor air temperature drops below the winter limit value set at the factory (-5 °C).

NOTE: COOLING

The value set for the supply air temperature of the active profile (e.g. At home) controls the startup of the pump. The pump starts when the supply air setting is below the temperature of the supply air that is blown into the apartment.

NOTE

Due to the risk of humidity damage, in a duct that has not been insulated for condensation the supply air temperature must not fall below 16 … 20 °C.

NOTE

When selecting the relay, take account of the maximum allowed combined power supply (6W) of the circuit card in the external connection box, if the relay power is obtained from the circuit board +24V connector.

EXPLODED VIEW AND PARTS LIST

Adroit™ DV245
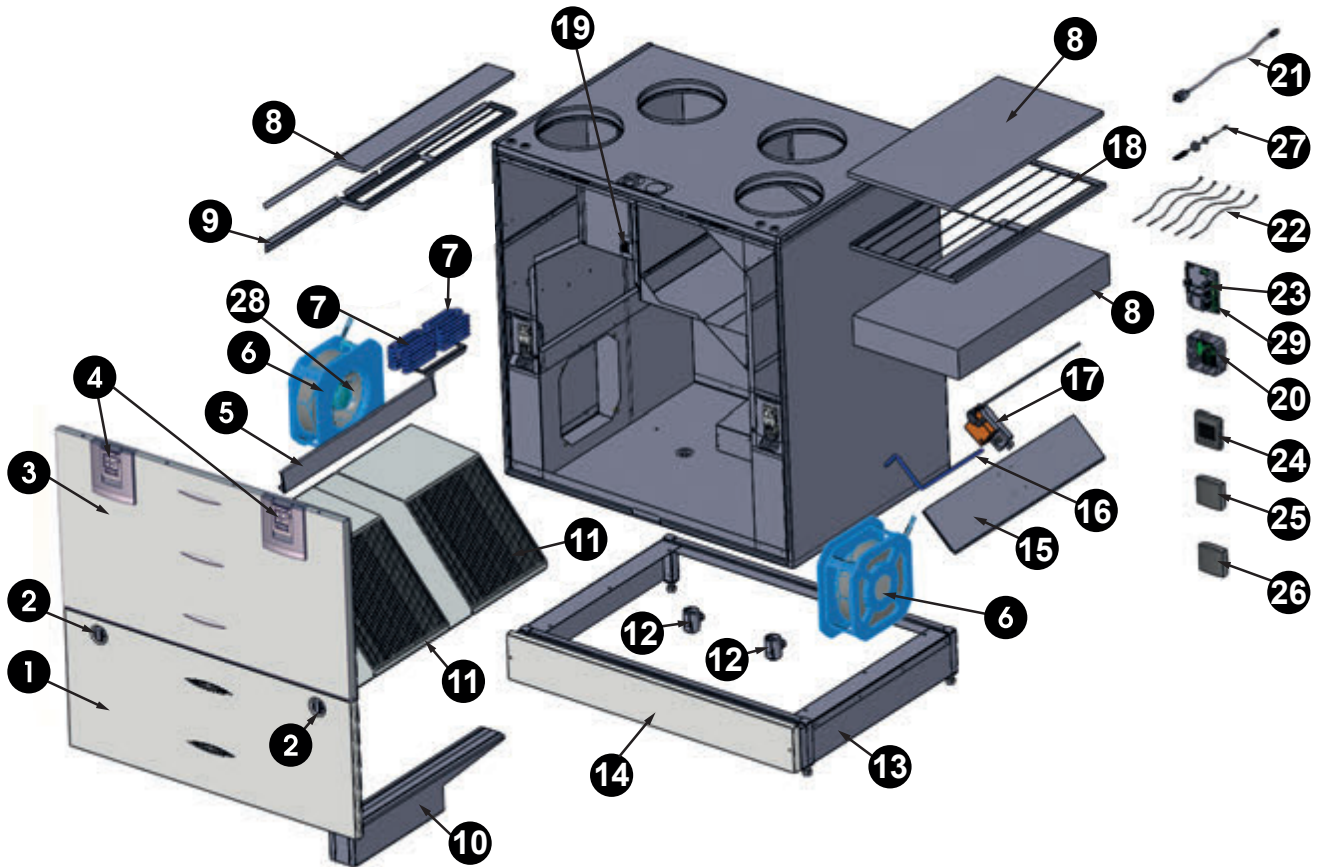
NO.	DESCRIPTION	PART NO.	NO.	DESCRIPTION	PART NO.	NO.	DESCRIPTION	PART NO.
1	Door assembly lower part	60000200	11	HR cell	60000266	21	RJ45 extension cable	60000209
2	Wing nut	60000261	12	Water seal	60000240	22	NTC sensor kit	60000204
3	Door assembly upper part	60000199	13	Base assembly	60000268	23	Glass tube fuse 5x20, 80mA, slow	60000231
4	Door latch assembly	60000224	14	Front panel of the base	60000269	24	Adroit Digital Controller (optional)	90000610
5	Upper sealing strip of the HR cell	60000263	15	Bypass damper	60000270	25	Adroit Humidity Transmitter (optional)	90000612
6	Fan assembly	60000218	16	Bypass arm	60000271	26	Adroit CO_2 Transmitter (optional)	90000613
7	Post/Additional heater 1500W (optional)	60000223	17	Bypass damper motor	60000207	27	Internal humidity sensor	60000220
8	Filter set: 2xG4, 1xF7	90000611	18	Outdoor air G4 filter stand	60000272	28	Supply air fan attenuation grid	60000274
9	Extract air G4 filter stand	60000264	19	Safety switch	60000135	29	Adroit motherboard	60000195
10	Lower support for HR cell	60000265	20	Connection box	60000208			

AIRFLOW ®   **DECLARATION OF CONFORMITY**

Supplier: Airflow Development Limited

Address: Aidelle House, Lancaster Road
Cressex Business Park
High Wycombe
Bucks
HP12 3QP

Telephone number: 01494 525252

E-mail: info@airflow.com

Web: airflow.com

Description of Unit: Ventilation unit with heat recovery

Model:

DV50 Adroit	DV80 Adroit
DV96 Adroit	DV110Adroit
DV145 Adroit	DV245Adroit

Declare that the ventilation unit for supply and extract air, equipped with heat recovery and operating as part of a ventilation system has been designed and manufactured to the following specifications;

1. Low Voltage Directive (2006/95/EC)
2. EMC Directive (2004/108/EC)

Fulfils technical specification of harmonized standards:
EN 60335-1:2012 EN 61000-6-1:2007, EN 62000-3-3:2006
A1:2009 + A2;2009, EN 61000-3-3:2008, EN 61000-6-3:2007 +
A1:2011

This is the original Declaration of Conformity

Alan Siggins   Date 6th May 2016
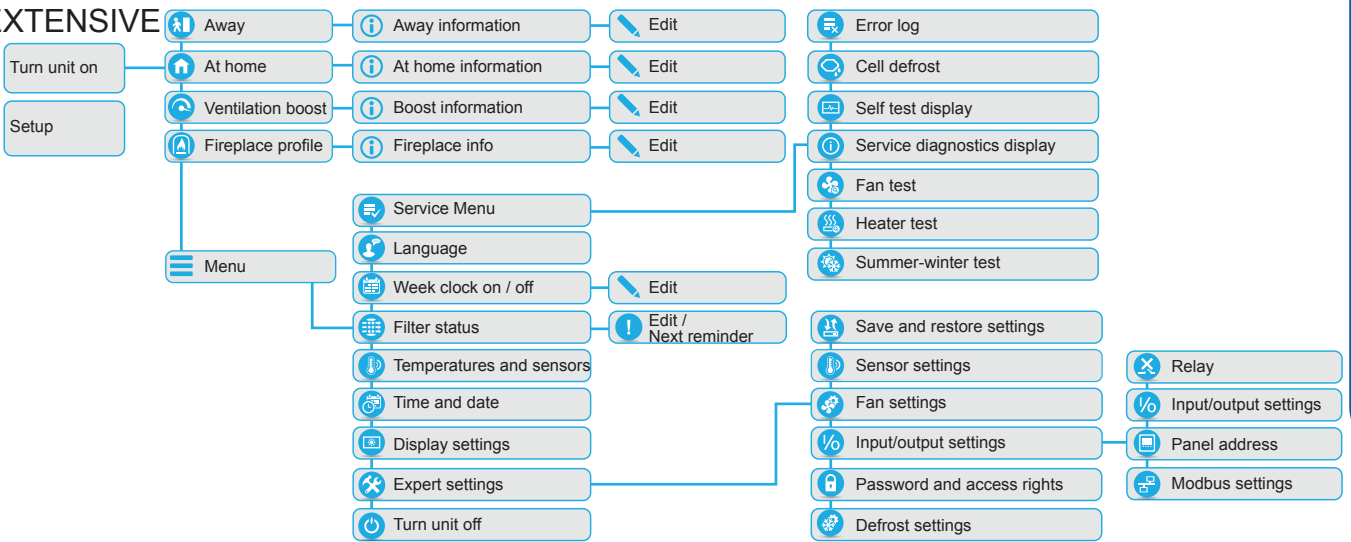Managing Director

Airflow Developments Limited
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High Wycombe, Buckinghamshire. HP12 3QP, U.K.
T: +44 (0)1494 425252
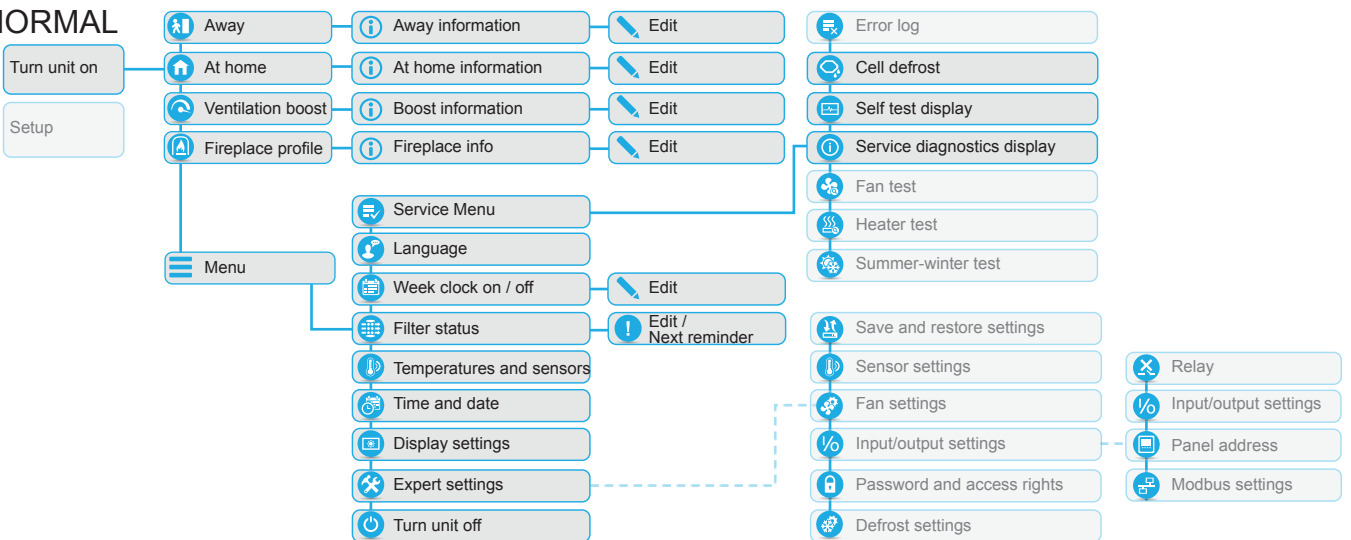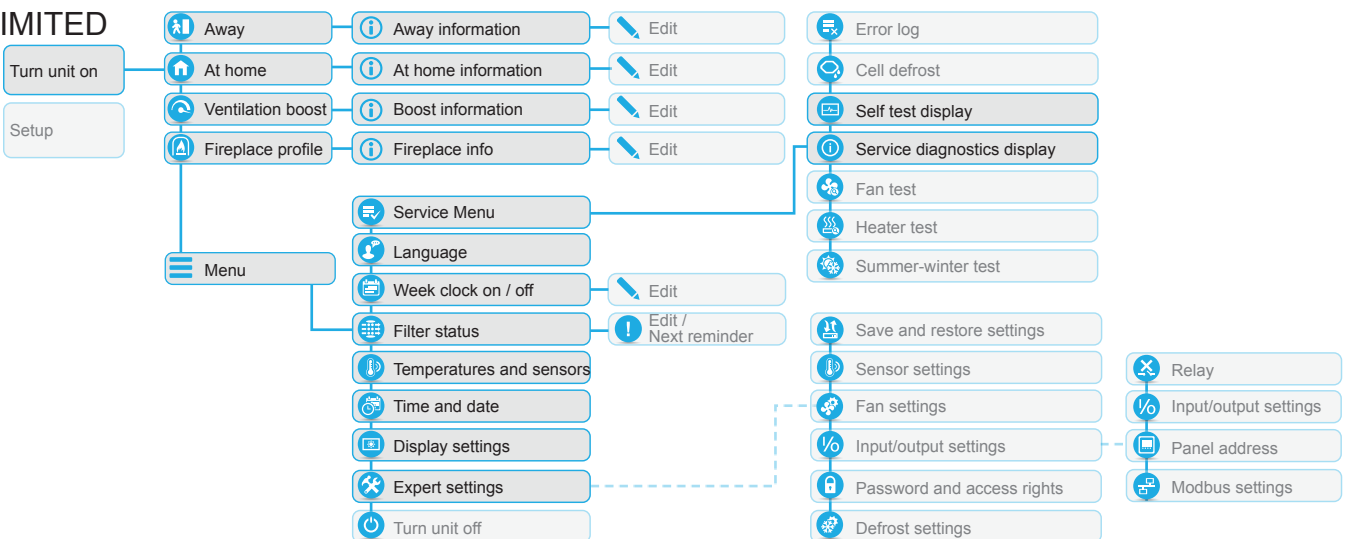E: info@airflow.com   W: airflow.com

USER LEVEL DIAGRAMS

Adroit DV245

EXTENSIVE

Turn unit on
Setup

- Away → Away information → Edit
- At home → At home information → Edit
- Ventilation boost → Boost information → Edit
- Fireplace profile → Fireplace info → Edit
- Menu
  - Service Menu
  - Language
  - Week clock on / off → Edit
  - Filter status → Edit / Next reminder
  - Temperatures and sensors
  - Time and date
  - Display settings
  - Expert settings
  - Turn unit off

Service Menu branch:
- Error log
- Cell defrost
- Self test display
- Service diagnostics display
- Fan test
- Heater test
- Summer-winter test

Expert settings branch:
- Save and restore settings
- Sensor settings
- Fan settings
- Input/output settings
- Password and access rights
- Defrost settings

Input/output settings sub-branch:
- Relay
- Input/output settings
- Panel address
- Modbus settings

NORMAL

Turn unit on
Setup

- Away → Away information → Edit
- At home → At home information → Edit
- Ventilation boost → Boost information → Edit
- Fireplace profile → Fireplace info → Edit
- Menu
  - Service Menu
  - Language
  - Week clock on / off → Edit
  - Filter status → Edit / Next reminder
  - Temperatures and sensors
  - Time and date
  - Display settings
  - Expert settings
  - Turn unit off

Service Menu branch:
- Error log
- Cell defrost
- Self test display
- Service diagnostics display
- Fan test
- Heater test
- Summer-winter test

Expert settings branch:
- Save and restore settings
- Sensor settings
- Fan settings
- Input/output settings
- Password and access rights
- Defrost settings

Input/output settings sub-branch:
- Relay
- Input/output settings
- Panel address
- Modbus settings

LIMITED

Turn unit on
Setup

- Away → Away information → Edit
- At home → At home information → Edit
- Ventilation boost → Boost information → Edit
- Fireplace profile → Fireplace info → Edit
- Menu
  - Service Menu
  - Language
  - Week clock on / off → Edit
  - Filter status → Edit / Next reminder
  - Temperatures and sensors
  - Time and date
  - Display settings
  - Expert settings
  - Turn unit off

Service Menu branch:
- Error log
- Cell defrost
- Self test display
- Service diagnostics display
- Fan test
- Heater test
- Summer-winter test

Expert settings branch:
- Save and restore settings
- Sensor settings
- Fan settings
- Input/output settings
- Password and access rights
- Defrost settings

Input/output settings sub-branch:
- Relay
- Input/output settings
- Panel address
- Modbus settings

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COMMISSIONING THE SYSTEM

The Building Regulations 2010, Statutory Instrument Part 9, paragraph 42, imposes a requirement that testing and reporting of mechanical ventilation performance is conducted in accordance with an approved procedure.

Compliance with this requirement by an assessed and registered "Competent Person" should follow a "Best Practice" process and adopt air flow measurement, Method A - The Unconditional Method - using a suitable UKAS certified measuring instrument. Generically referred to as a "Zero Pressure Air Flow Meter" or "Powered Flow Meter".

Further information on this method is detailed in NHBC Building Regulations Guidance Note G272a 10/13 and BSRIA "A Guide to Measuring Air Flow Rates" document BG46/2015

WARRANTY

Applicable to units installed and used within the United Kingdom. Airflow Developments Ltd guarantees the DV245 Adroit unit for 5 YEARS from date of purchase against faulty material or workmanship. Motors are only covered for 1 YEAR from date of purchase against faulty material or workmanship.

In the event of any defective parts being found, Airflow Developments Ltd reserve the right to repair, or at our discretion, replace without charge provided that the unit:

• Has been installed and used in accordance with the fitting and wiring instructions supplied with each unit.
• Has not been connected to an unsuitable electrical supply.
• Has not been subjected to misuse, neglect or damage.
• Has not been modified or repaired by any person not authorised by Airflow Developments Ltd.
• Has been installed in accordance with latest Building Regulations and IEEE wiring regulations by a recognised competent installer.

Airflow Developments Ltd shall not be liable for any loss, injury or other consequential damage, in the event of a failure of the equipment or arising from, or in connection with, the equipment excepting only that nothing in this condition shall be construed as to exclude or restrict liability or negligence.

This warranty does not in any way affect any statutory or other consumer rights.