

DEXA HR

Single Room Heat Recovery Unit

INSTALLATION, MAINTENANCE & USER GUIDE

Read this manual carefully before using the product and keep it in a safe place for reference. This product was constructed up to standard and in compliance with regulations relating to electrical equipment and must be installed by technically qualified personnel. The manufacturer assumes no responsibility for damage to persons or property resulting from failure to observe the regulations contained in this booklet.

PRECAUTIONS FOR INSTALLATION, USE & MAINTENANCE

01. The device should not be used for applications other than those specified in this manual.
02. After removing the product from its packaging, verify its condition. In case of doubt, contact a qualified technician. Do not leave packaging within the reach of small children or people with disabilities.
03. Do not touch the appliance with wet or damp hands/feet.
04. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
05. Do not use the product in the presence of flammable vapours, such as alcohol, insecticides, gasoline, etc.
06. If any abnormalities in operation are detected, disconnect the device from the mains supply and contact a qualified technician immediately. Use original spare parts only for repairs.
07. The electrical system to which the device is connected must comply with regulations.
08. Before connecting the product to the power supply or the power outlet, ensure that:
 - the data plate (voltage and frequency) correspond to those of the electrical mains
 - the electrical power supply/socket is adequate for maximum device power. If not, contact a qualified technician.
09. The device should not be used as an activator for water heaters, stoves, etc., nor should it discharge into hot air/fume vent ducts deriving from any type of combustion unit. It must expel air outside via its own special duct.
10. Operating temperature: -20°C up to +50°C.
11. The device is designed to extract clean air only, i.e. without grease, soot, chemical or corrosive agents, or flammable or explosive mixtures.
12. Do not leave the device exposed to atmospheric agents (rain, sun, snow, etc.).
13. Do not immerse the device or its parts in water or other liquids.
14. Turn off the main switch whenever a malfunction is detected or when cleaning.
15. For installation an omnipolar switch should be incorporated in the fixed wiring, in accordance with the wiring regulations, to provide a full disconnection under over-voltage category III conditions (contact opening distance equal to or greater than 3mm).
16. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
17. Do not obstruct the fan or exhaust grille to ensure optimum air passage.
18. Ensure adequate air return/discharge into/ from the room in compliance with existing regulations in order to ensure proper device operation.
19. If the environment in which the product is installed also houses a fuel-operating device (water heater, methane stove etc., that is not a "sealed chamber" type), it is essential to ensure adequate air intake, to ensure good combustion and proper equipment operation.
20. Install the product so that the impeller is not accessible from the air outlet side as verified by contact with the Test Finger (test probe "B" of the norm EN61032) in compliance with the current safety regulations.

01384 275771

info@eltatrade.co.uk

www.eltatrade.co.uk

INTRODUCTION

DEXA HR is a single alternate flow decentralised (single point) residential heat recovery unit, also called a push & pull unit, designed to ensure adequate ventilation in enclosed environments without energy losses.

It is recommended that two units are installed as a pair: when one unit is pulling, the other is pushing.

Pairs of units can be installed in the same room or in different rooms (i.e. living room and bedroom). The unit is suitable for installation on an outside wall.

IMPORTANT: The unit should operate continuously, and only stopped for maintenance or service. When heat exchange is not useful (for example in mid-seasons when indoor and outdoor temperatures are similar), or when heat exchange is not recommended (for example with the option “summer free cooling”), it is recommended to set the unit in “extract-only” or “intake-only” mode and **NOT** to switch it off.

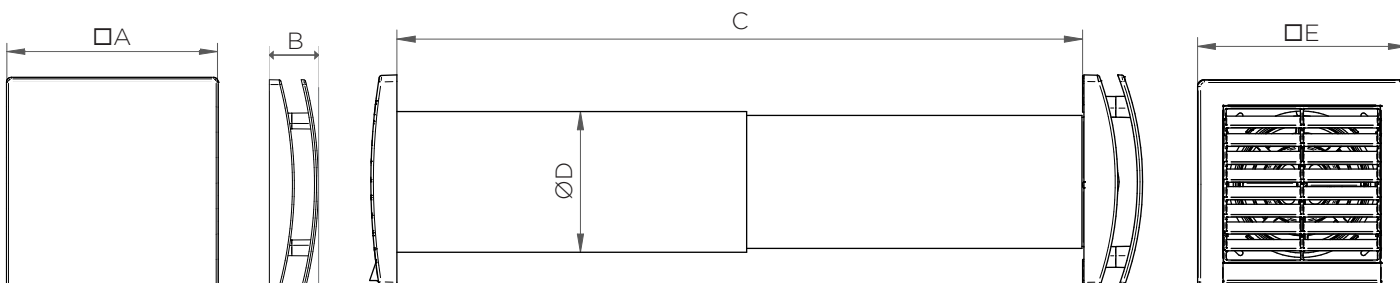
TECHNICAL SPECIFICATION

- Inner ventilation unit material: high quality, impact and UV-resistant ABS colour RAL 9010.
- Modern design front cover removable for cleaning without the use of tools.
- Easy maintenance installation plate, for easy access to the heat exchanger from inside the room.
- Anti-dust filter, easily removable for washing by the user without tools.
- Regenerative honeycomb ceramic heat exchanger.
- External grille in high quality, impact and UV-resistant ABS colour RAL 9010.
- High efficiency aerodynamic fan with “wingle” blades to optimise quietness and efficiency.
- Single phase EC reversible brushless motor with integral thermal protection.
- Motor mounted on high quality ball bearings.
- Trickle speed selectable.
- Boost mode.
- Free-cooling (Bypass) mode.
- IPX4 degree of protection.
- Power supply 220V to 240V~ 50Hz.

DIMENSIONS

Model	A	B	C	D	E
DEXA HR 100	164	46	300-570	110	164
DEXA HR 150	218	51	300-570	159	218

Dimensions in mm.



OPERATION

The unit pulls air out for 70 seconds, then alternates and pushes air in for the same time.

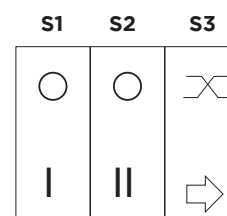
When heated air is pulled (extracted) from inside the room, it warms up the heat exchanger; when the cold air is pushed (supplied) in the room, it gets preheated, recovering most of thermal energy which would be otherwise lost in the ventilation process.

The unit runs at the speed selected by activating the two-position switches “S1”, “S2” and “S3” of the optional DEXA HR CONTROL SWITCH (available separately).

The same functionality can be achieved with 3 two-position switches.

“S1”	“S2”	Operation
○	○	OFF
I	○	Speed 1
○	II	Speed 2
I	II	Speed 3

“S3”	Operation
	Heat recovery (Alternate flow)
	Free cooling



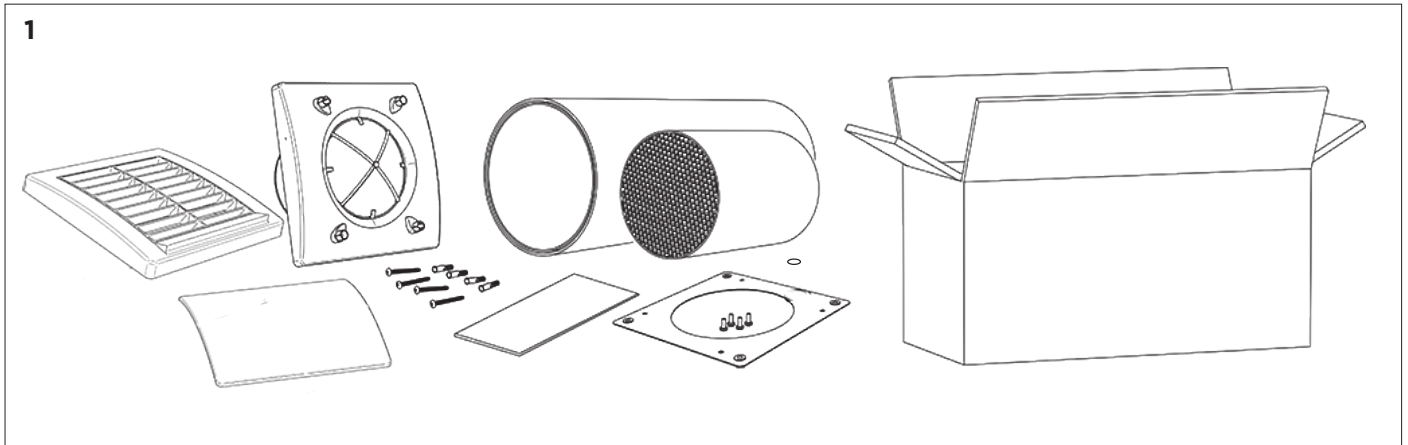
DEXA HR CONTROL SWITCH (Available separately)

The S3 switch activates the “Free Cooling” (Bypass) mode, which stops alternate flow and keeps the fan in “extract-only” or “intake-only” mode, to avoid heat exchange when necessary.

To set the “extract-only” mode or “intake-only”, place the integral jumpers as per fig. 20A-20B. The front cover LED indicates when the Free Cooling mode is active.

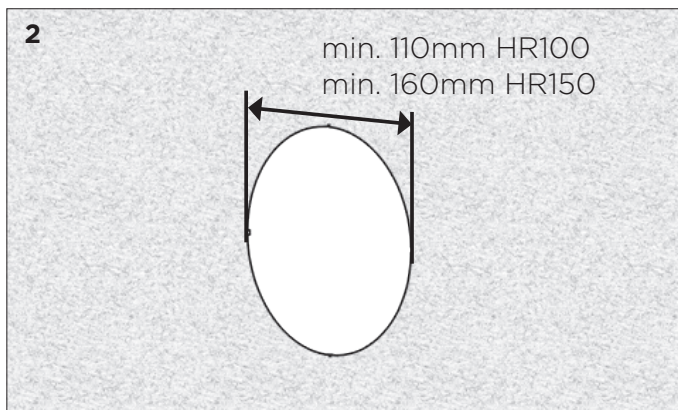
An automatic “Boost” mode can be achieved through a dedicated switch or room sensors such as the HUMIDITY SENSOR, CO₂ SENSOR or PIR SENSOR (available separately). See the wiring section for connection details.

INSTALLATION

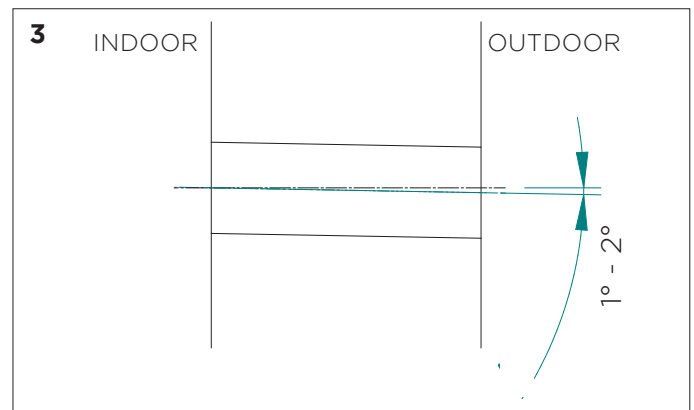


Check the contents of the box to make sure all items are present.

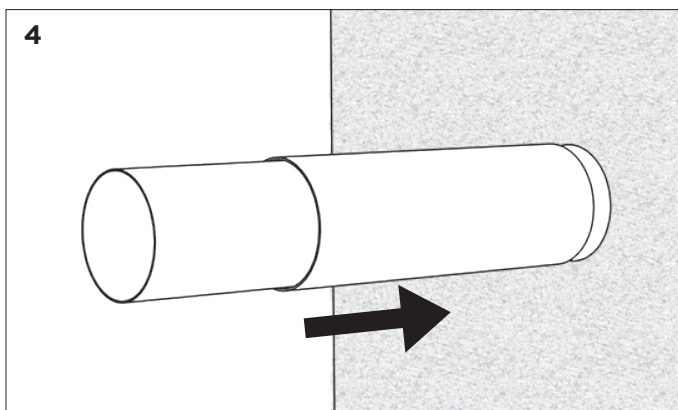
IMPORTANT: When installing the fan, it is essential that the centre of the unit is located **300mm** from all obstacles, walls and ceilings to ensure correct airflow around the unit.



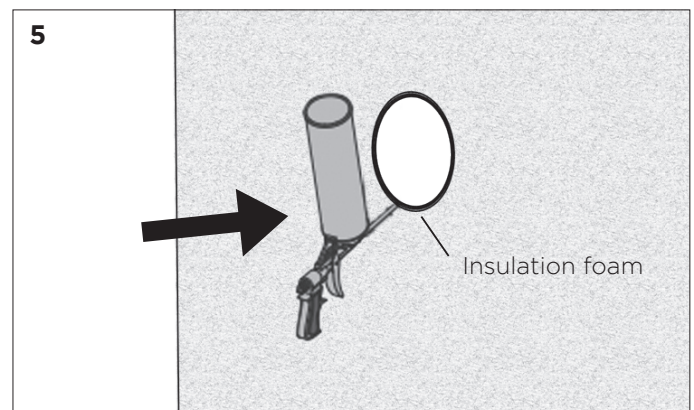
The hole in the wall should be the size noted above depending on the unit.



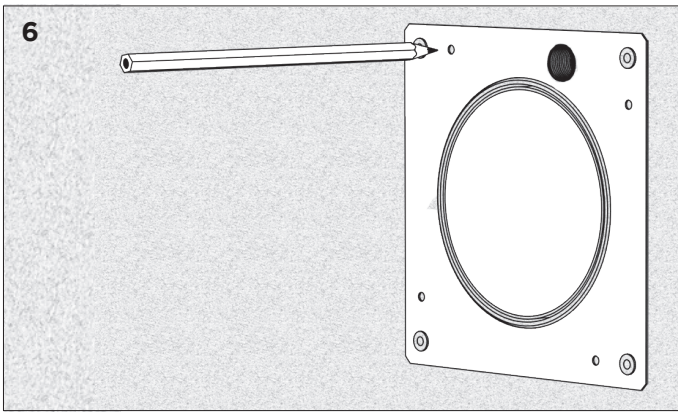
When drilling the hole for the ducting, ensure there is a slight fall of 1 - 2 degrees from the inside to outside.



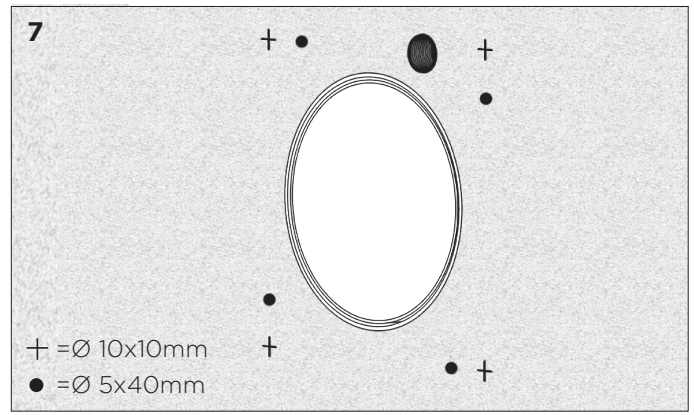
Put the telescopic duct into the wall and adjust the length to suit. The duct should extend 3-5mm from the surface of the outside wall to ensure correct sealing with the grille when installed.



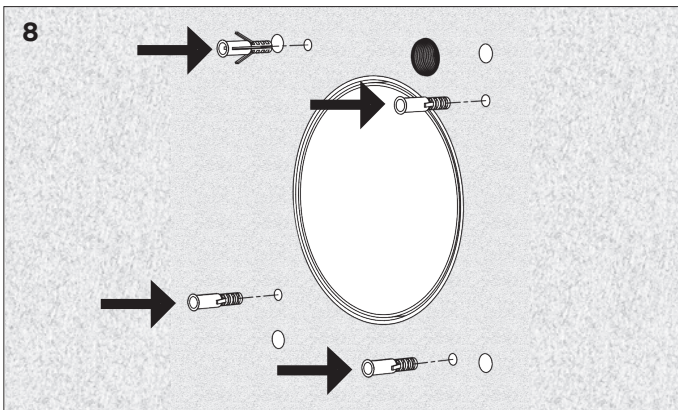
Using expanding insulation foam, seal around the tube.



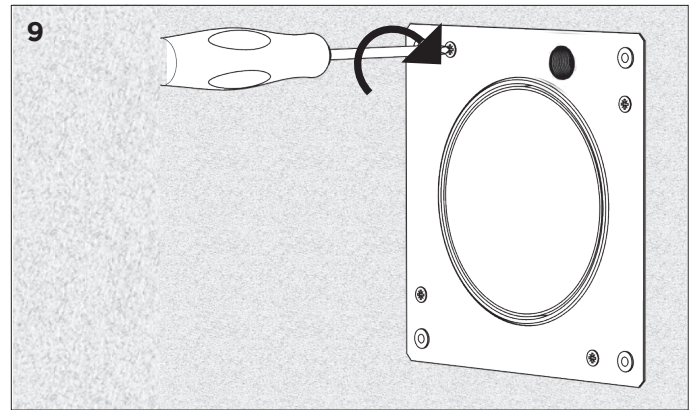
Hold the base plate up to the hole. After levelling, mark the 8 mounting holes on the wall.



Drill the 8 holes as marked above.

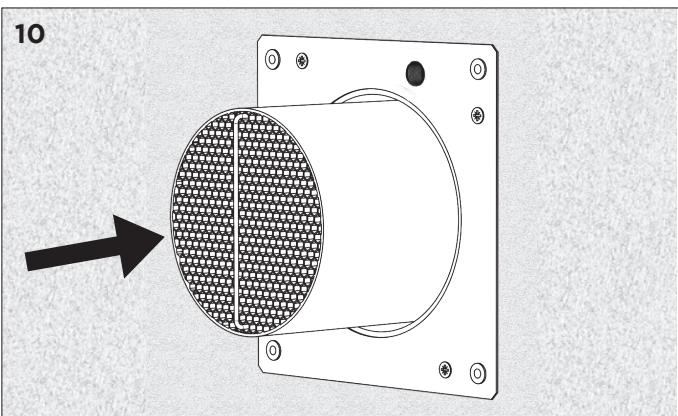


Insert the 4 supplied wall plugs. If you are mounting to other surfaces, other fixings (not supplied) may be required.

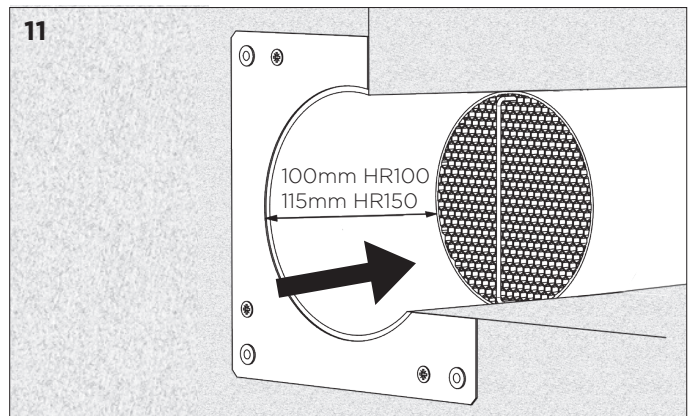


Affix the fan to the wall with the 4 screws supplied. If you are mounting to other surfaces, other fixings (not supplied) may be required.

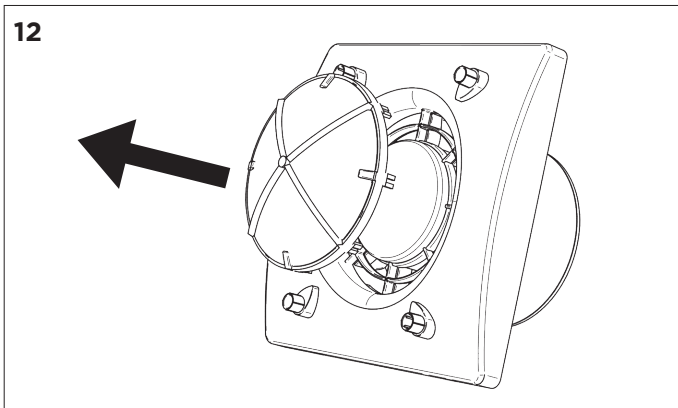
WARNING: Care should be taken handling the ceramic heat exchanger to avoid damage.



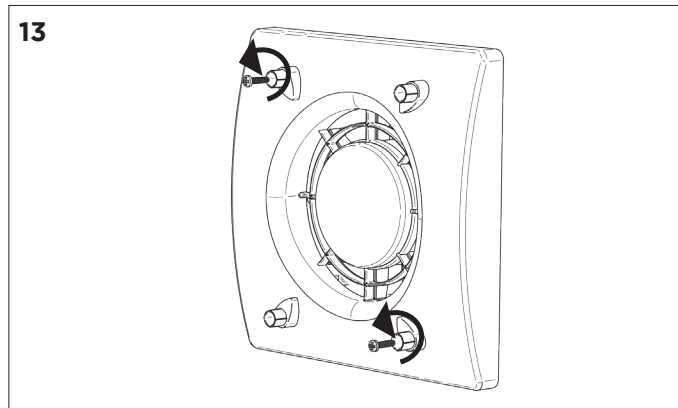
Push the heat exchanger into the duct.



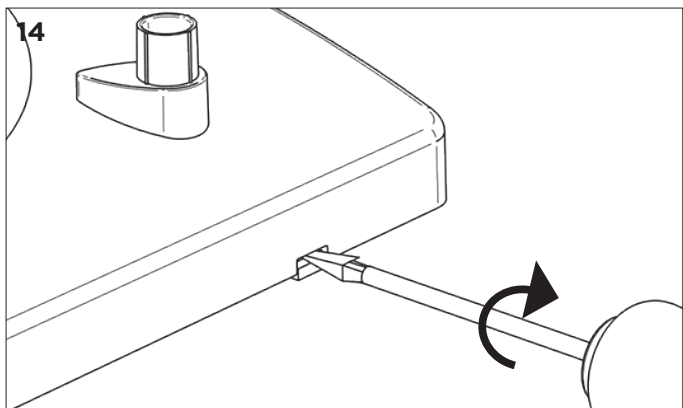
The exchanger should be seated in the ducting at the depth shown.



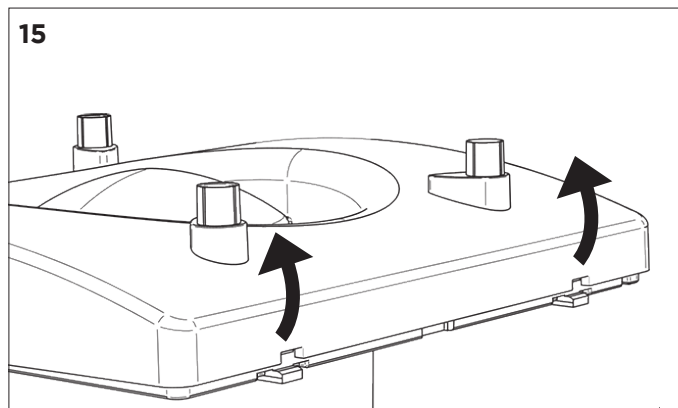
Remove the dust filter.



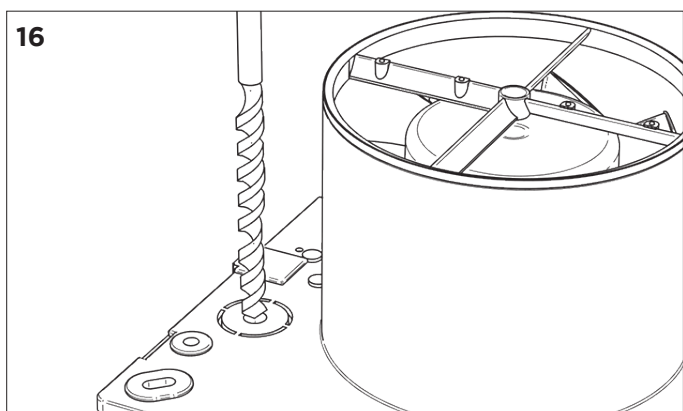
Remove the 2 screws to unsecure the front cover.



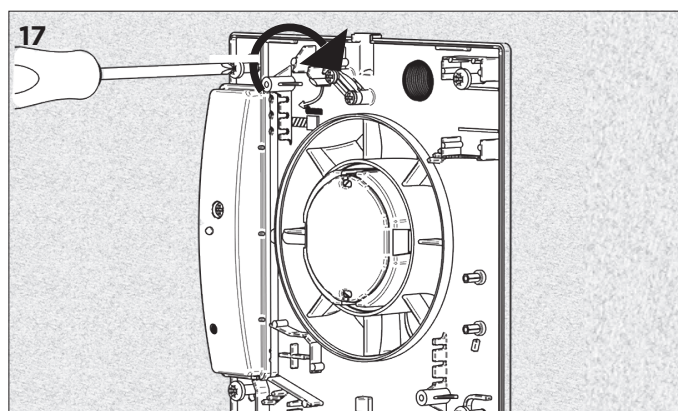
Use a flat bladed screwdriver to release the side tabs.



Lift the cover from the base.



Drill/remove the rear cable knockout.



Use the larger provided screws to attach the fan to the baseplate.

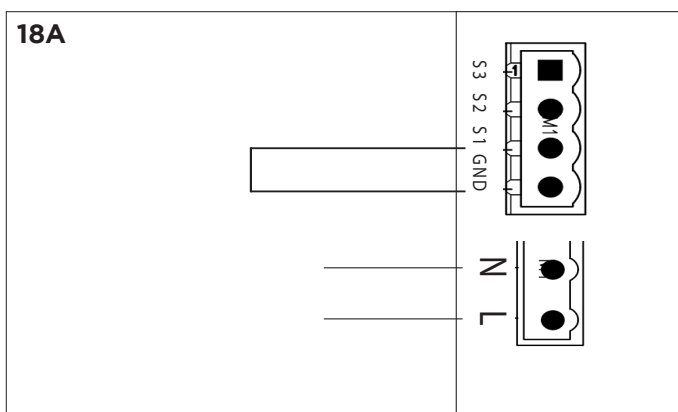
WIRING

WARNING: Ensure that the electric wiring to L and N is correct; an incorrect connection will lead to malfunction or permanent damage of the fan.

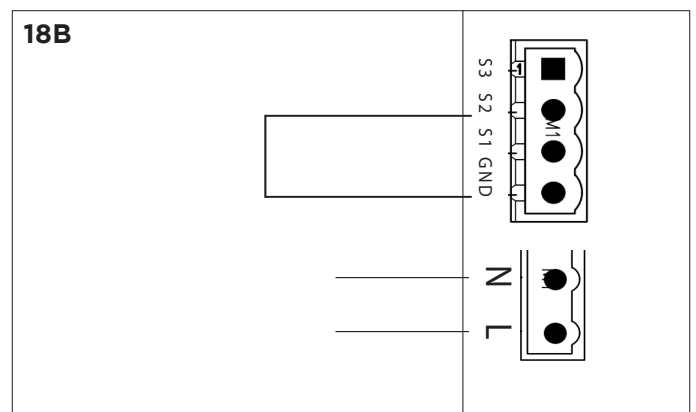
The units can be installed individually or in multiples of pairs, with various options of operation:

- Fixed Speed 1 (fig. 18A)
- Fixed Speed 2 (fig. 18B)
- Fixed Speed 3 (fig. 18C)
- Single unit with optional DEXA HR CONTROL SWITCH (fig. 18D)
- Single unit with optional AMBIENT SENSORS (fig. 18E & 18F)
- Two units with optional DEXA HR CONTROL SWITCH (fig. 18G)

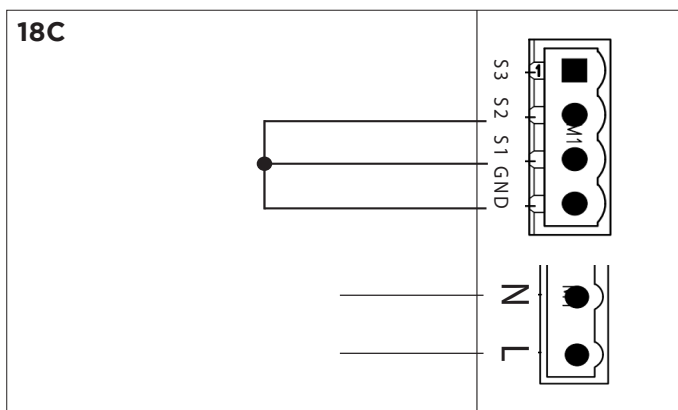
When units are installed in pairs, it is necessary to synchronise them together, see the next section on pg. 10 for details.



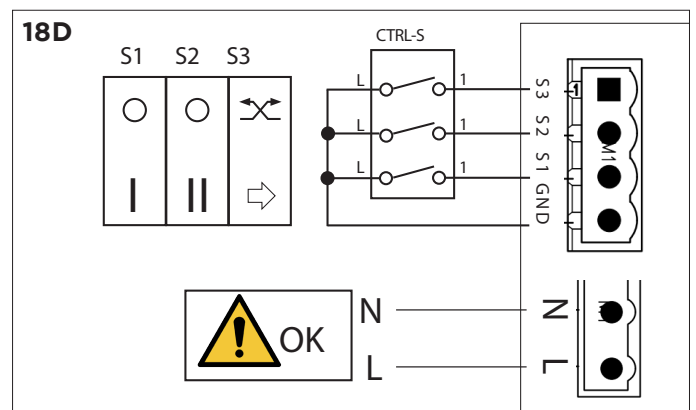
SPEED 1 (FIXED).



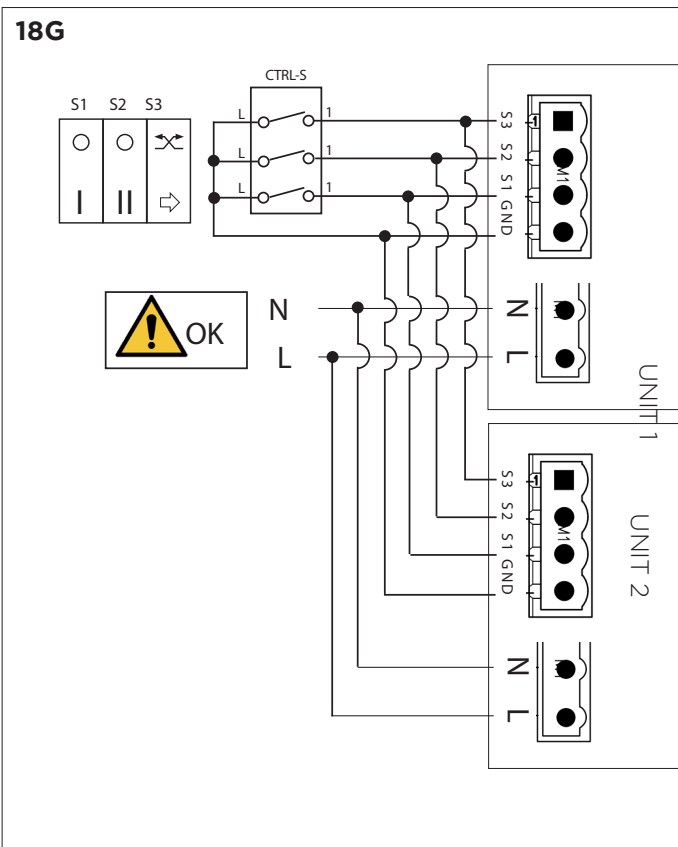
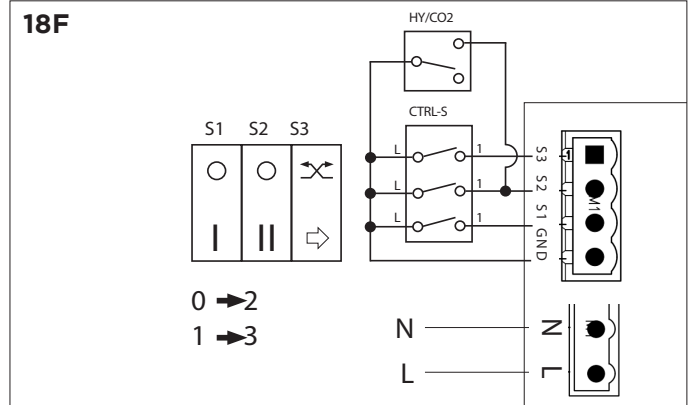
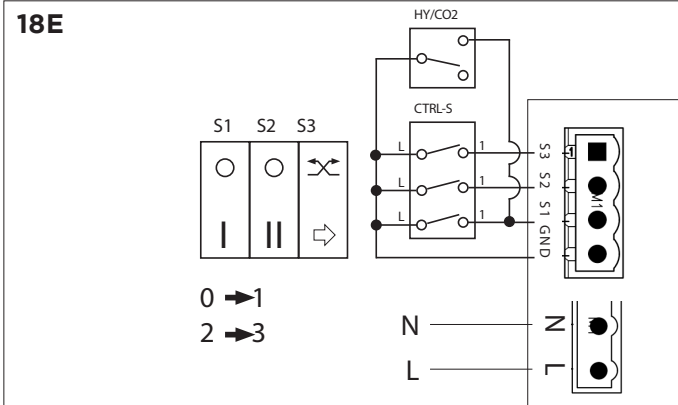
SPEED 2 (FIXED).



SPEED 3 (FIXED).



Single unit with optional DEXA HR CONTROL SWITCH (available separately).



Two units with optional DEXA HR CONTROL SWITCH (available separately).

**For units installed in pairs, continue through the following synchronisation steps.
For single unit installations, continue from step 24.**

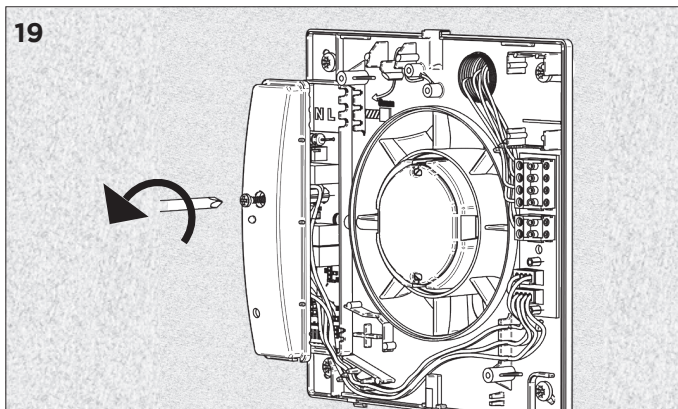
SYNCHRONISATION

When units are installed in pairs, they must be synchronised so that when one unit is extracting, the other is supplying, and vice-versa. This is achieved in two steps:

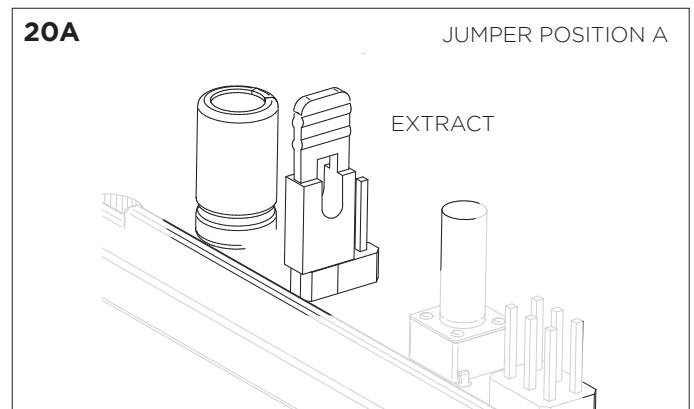
1. By setting the dedicated jumpers (fig. 20A & 20B).
2. Then when the units are energised, following option 1 or 2 in the synchronising multiple units section (fig. 22 & 23).

NOTE:

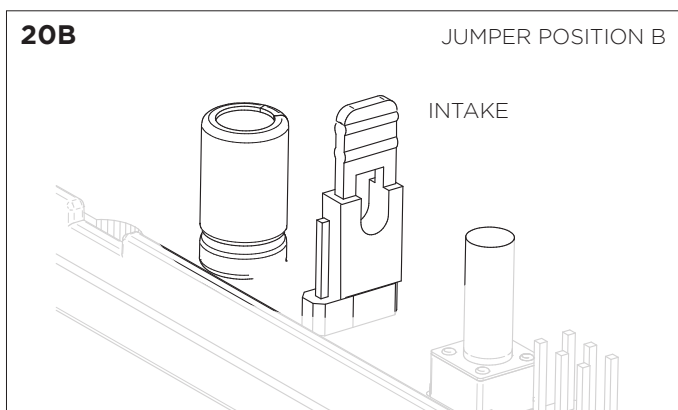
- If two or more units are controlled by the same control switch (such as the DEXA HR CONTROL SWITCH or similar), they always operate in a synchronised way (wiring diagram as per fig. 18G).
- If units need re-synchronising in the future, follow step 2 above.
- The jumper position defines both the airflow direction when the unit is activated for the first time (for synchronisation) and the airflow direction of the free-cooling mode.



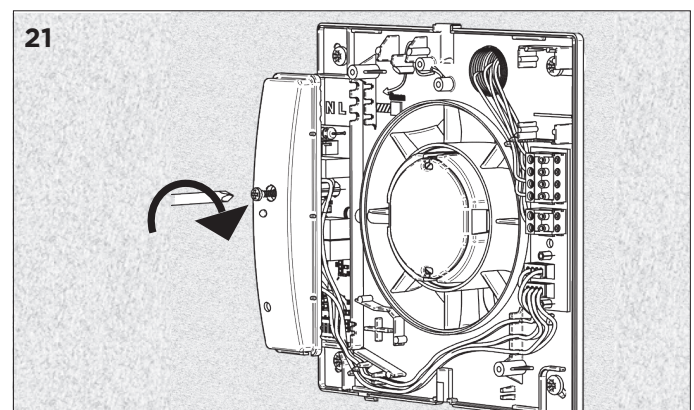
Remove the electronics cover by loosening the single screw to access the jumpers.



Integral jumper set in position A (fig. 20A) means "extract-only" mode.

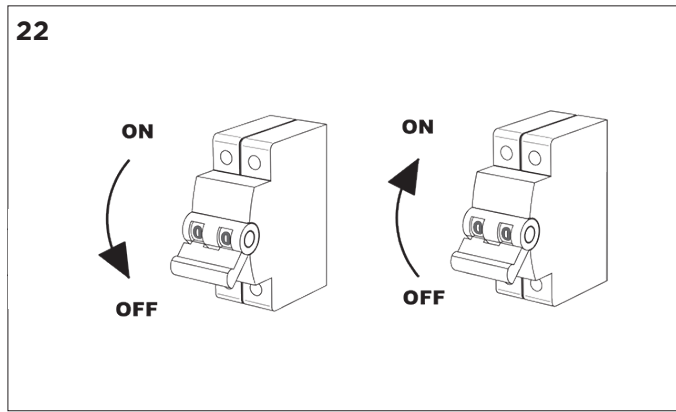


Integral jumper set in position B (fig. 20B) means "intake-only" mode.



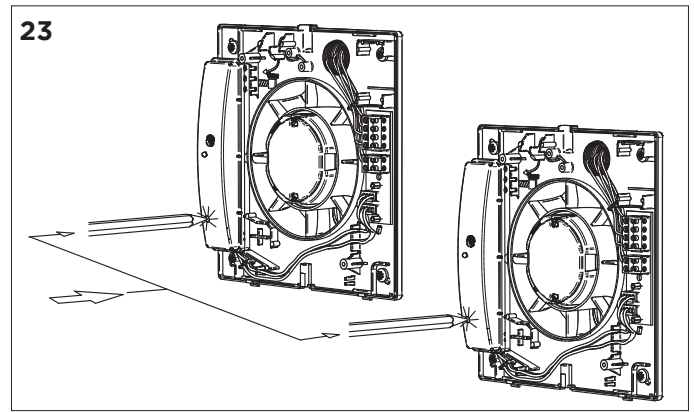
Replace the electronics cover and re-tighten the screw.

OPTION 1

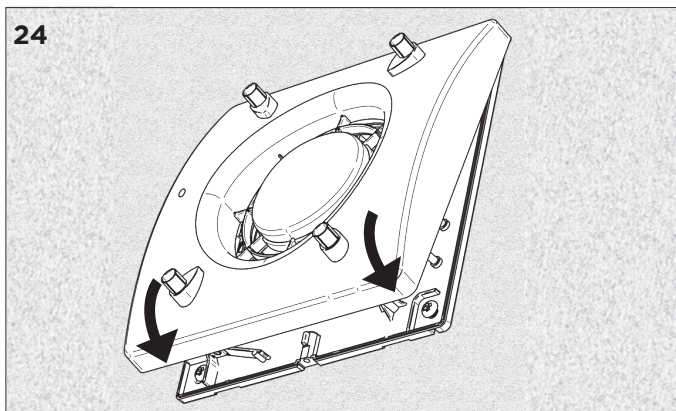


If two or more units are connected under the same main switch, isolate the electricity supply to both units and then re-energise at the same time.

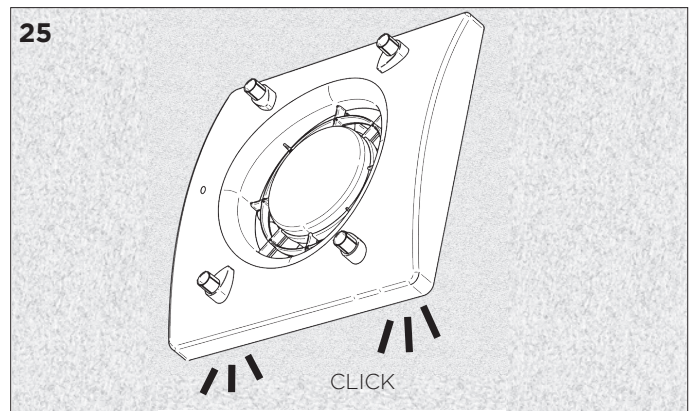
OPTION 2



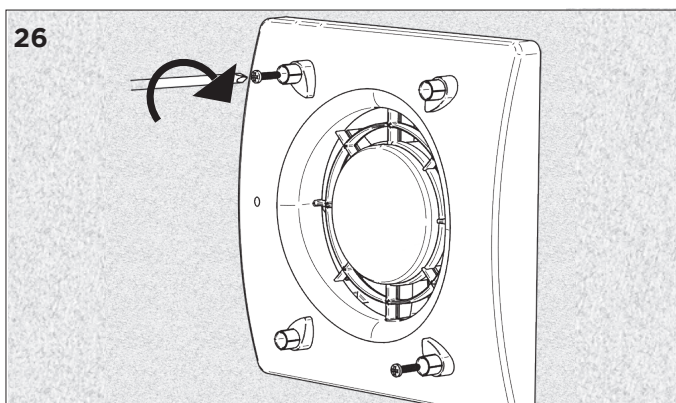
If two or more units are not connected under the same main switch, press the reset button for at least 3 seconds at the same time on each unit.



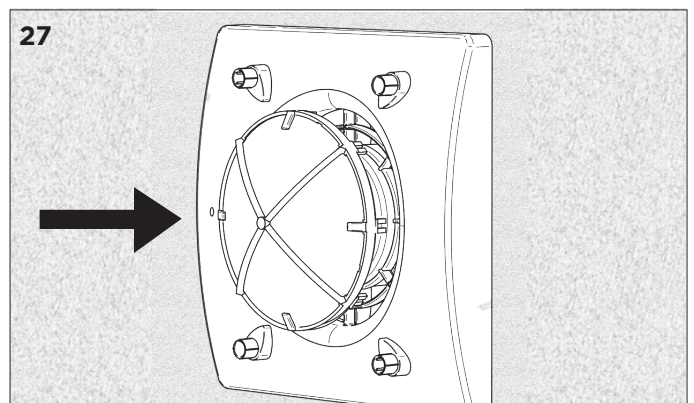
To reattach the cover, locate the 2 tabs and hinge the cover into place.



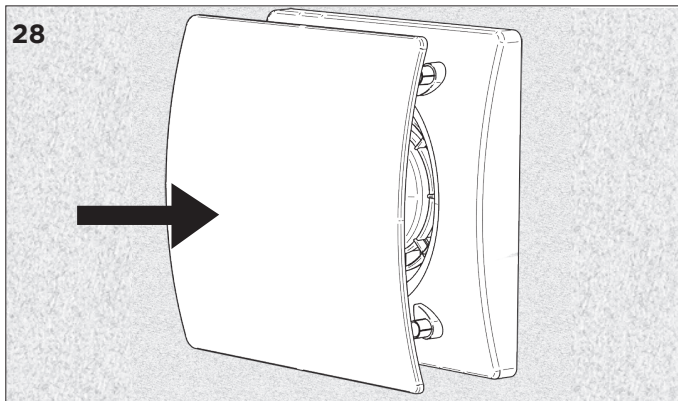
Ensure the cover clicks into place and is seated squarely all around.



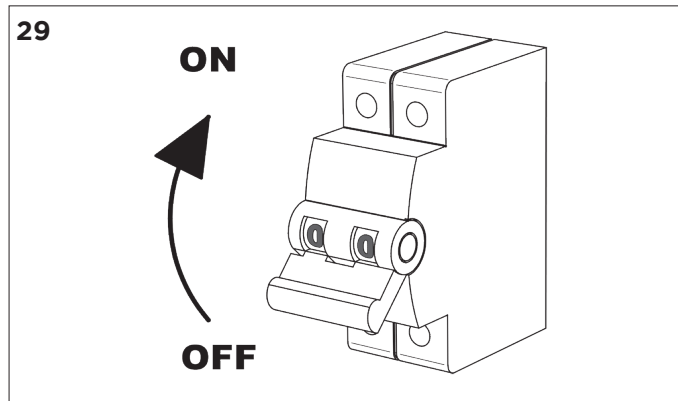
Replace the two screws removed in step 2.



Install the filter.

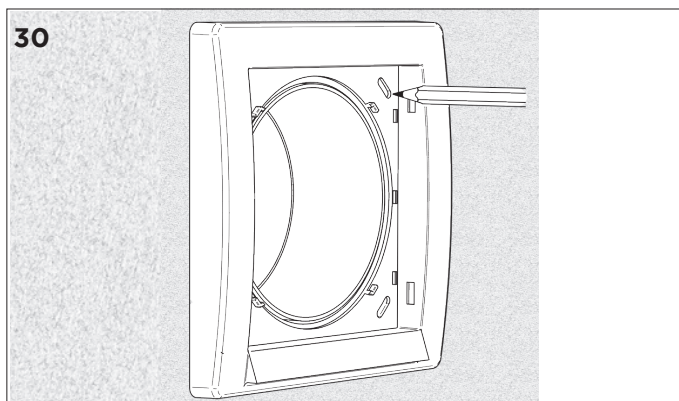


Install the front cover.

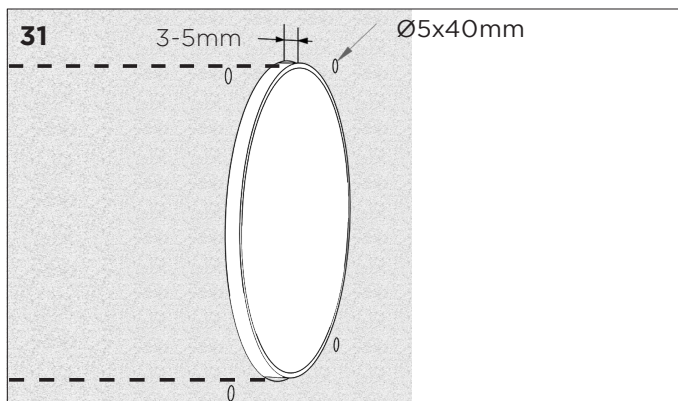


Energise the fan and check operation is correct.

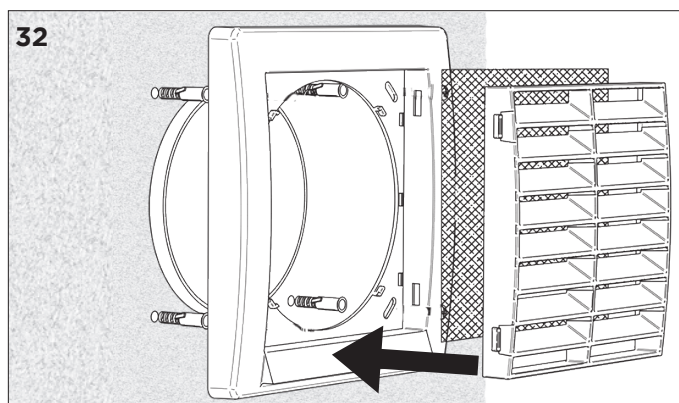
EXTERNAL GRILLE



Hold the grille in place and mark the holes.



Drill the 4 x fixing holes. For optimum performance of the unit, ensure the ducting also protrudes 3-5mm from the wall surface.



Use the supplied fixings to screw the base back. Then inset the mesh and finally click the fascia in place. Please note, depending on the mounting surface, alternative fixings may be required (not supplied).

01384 275771

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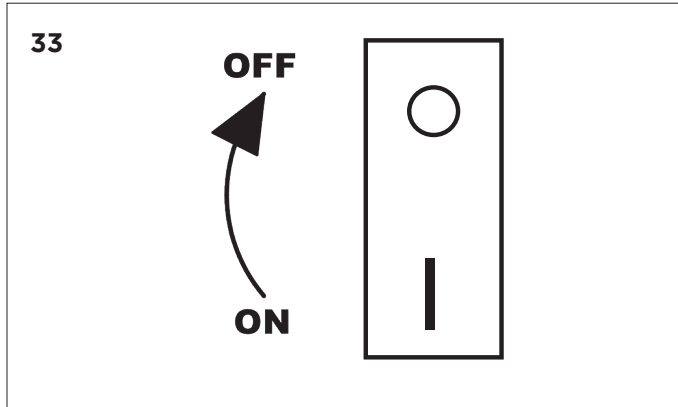
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MAINTENANCE & SERVICE

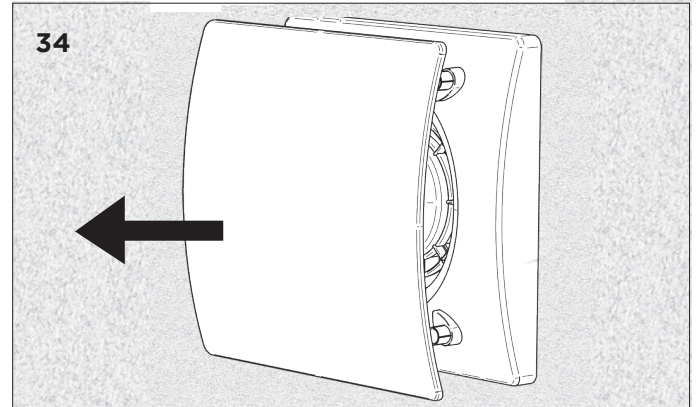
The fan filter and heat exchanger core need to be serviced regularly to maintain optimum performance.

FILTER CLEANING (MAINTENANCE)

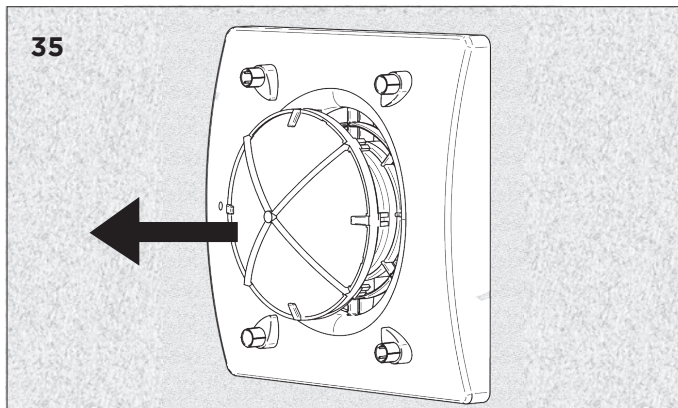
Filter cleaning can be carried out by the user and should be done at least once per month and more often for heavy accumulations.



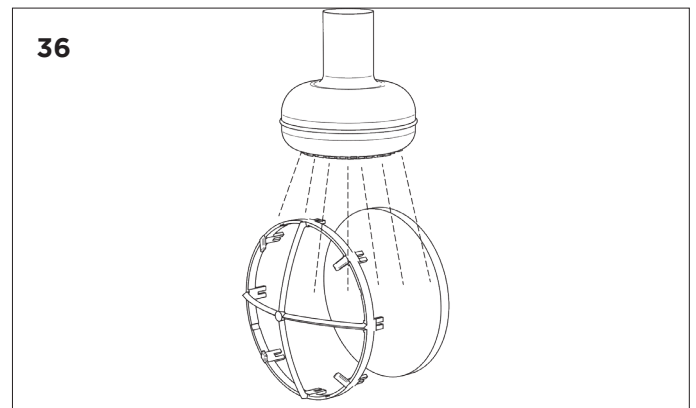
Turn the fan off.



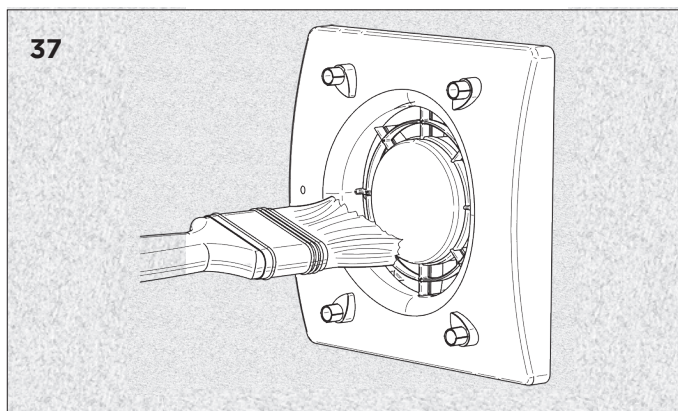
Remove the front cover.



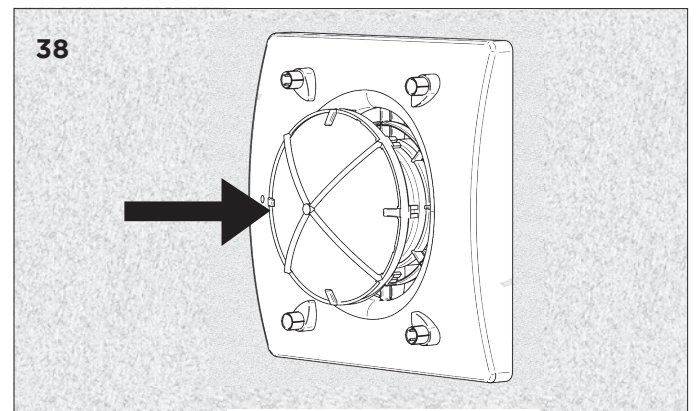
Remove the dust filter.



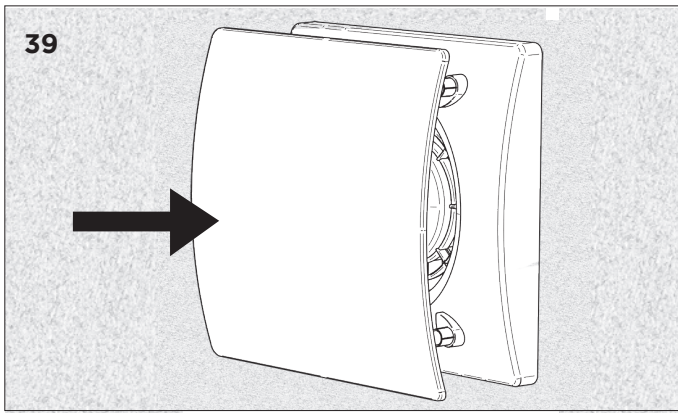
Remove the front cover and wash both parts.



Remove any dirt from the unit with a dry, soft bristled brush.



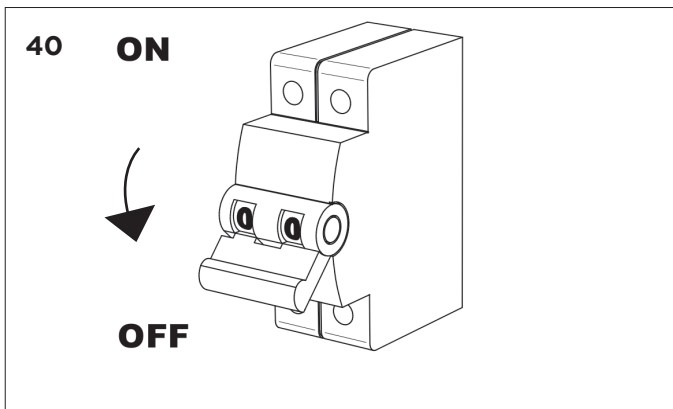
Ensure the filter is completely dry and reinstall into the fan.



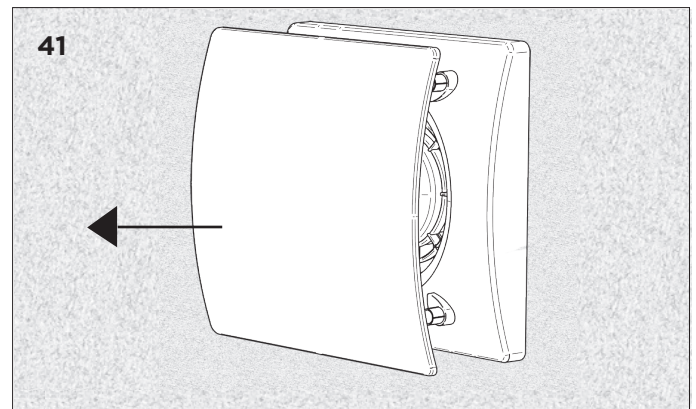
Reinstall the front cover and turn the unit back on.

HEAT EXCHANGER SERVICE

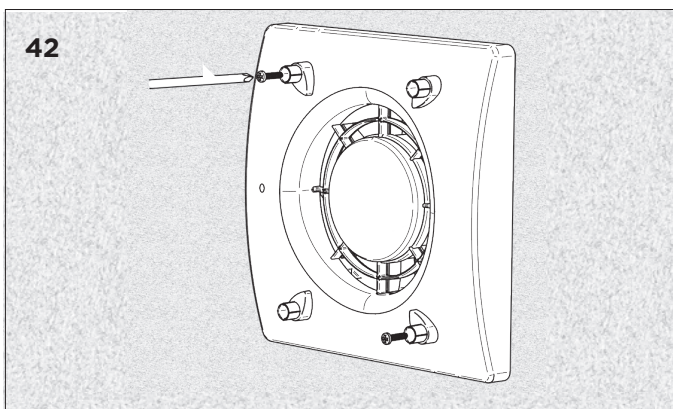
The heat exchanger service must be performed only by technically qualified personnel in accordance with local rules and regulations. Make sure that the mains supply to the unit is disconnected. Cleaning of the heat exchanger can also be performed from outside if necessary.



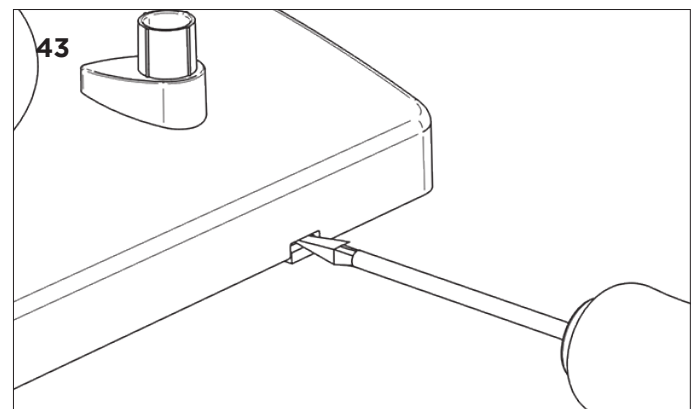
Isolate the fan from the electricity supply.



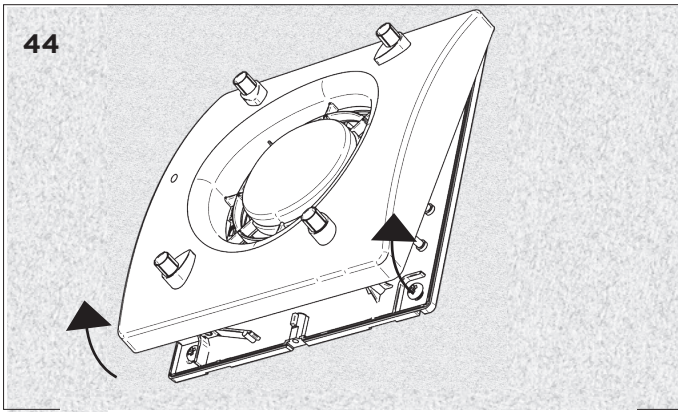
Remove the front cover



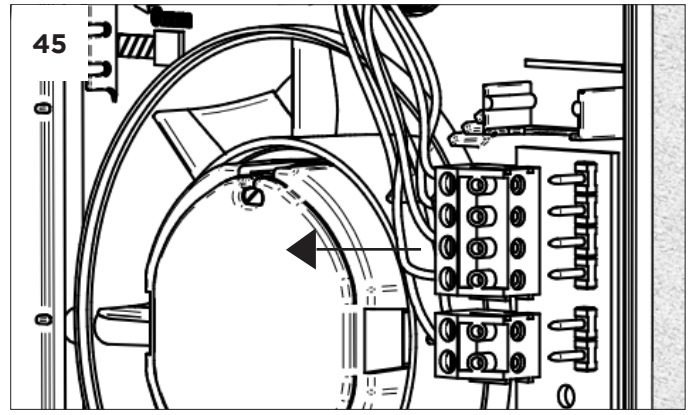
Remove the 2 screws to unsecure the front cover.



Use a flat bladed screwdriver to release the side tabs.

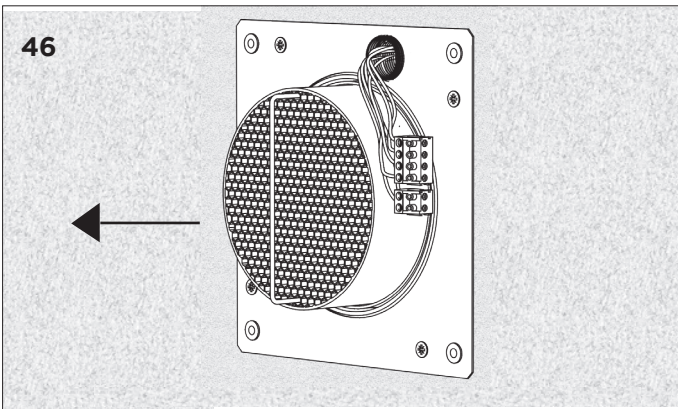


Lift the cover from the base.

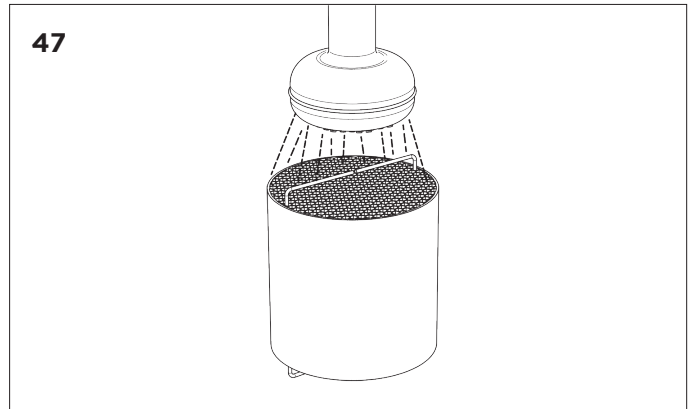


Unplug the wiring harness from the fan and remove the fan from the baseplate.

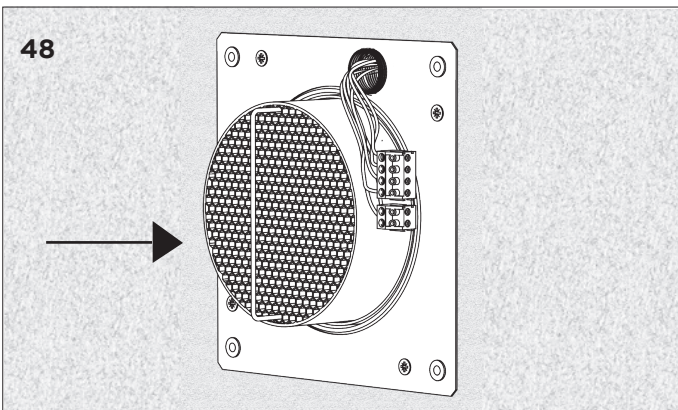
WARNING: Care should be taken handling the ceramic heat exchanger to avoid damage.



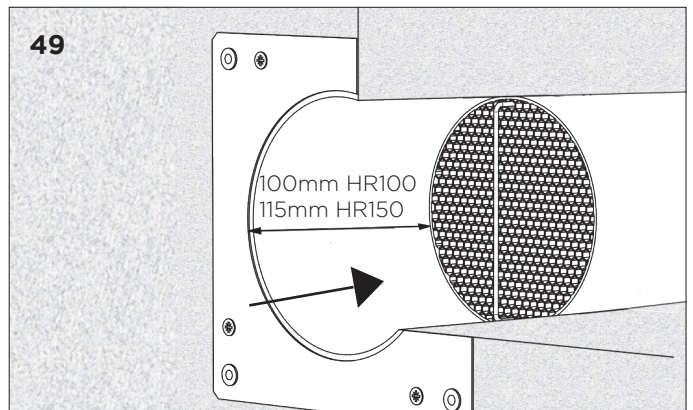
Using the handle, pull the heat exchanger out of the wall tube.



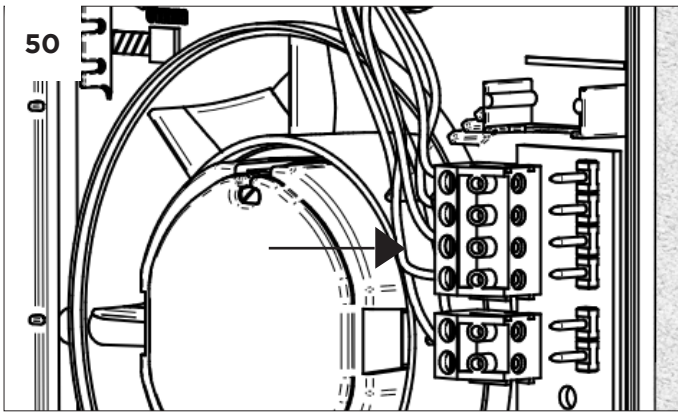
Wash the heat exchanger and allow to dry completely.



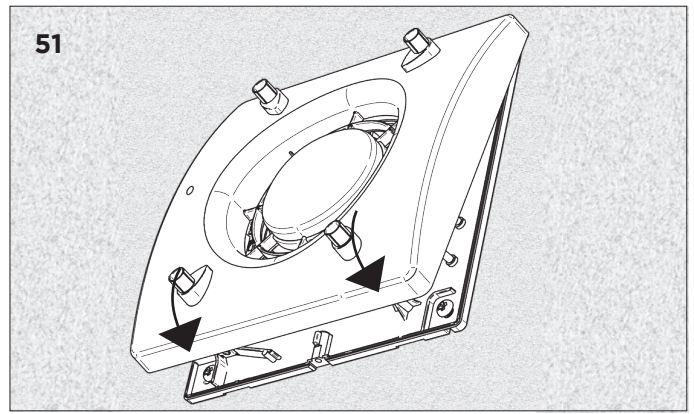
Once dry, reinsert the heat exchanger into the ducting.



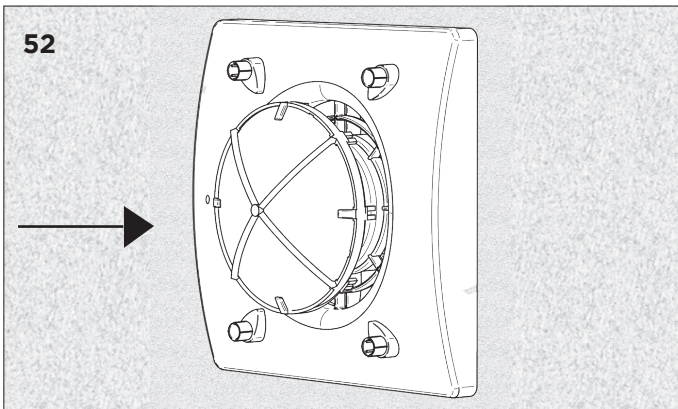
The exchanger should be seated in the ducting at the depth shown.



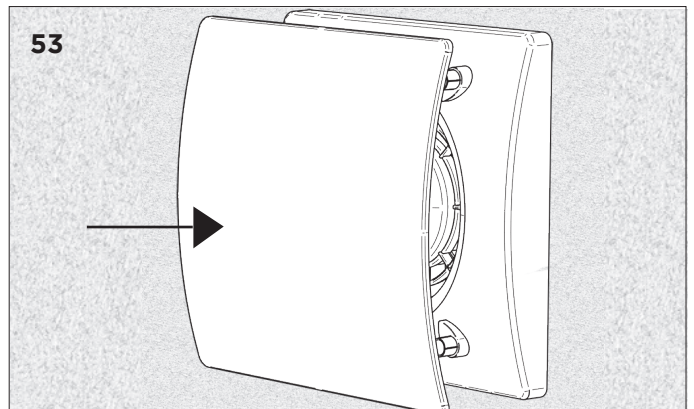
Reinstall the fan and plug in the wiring harness.



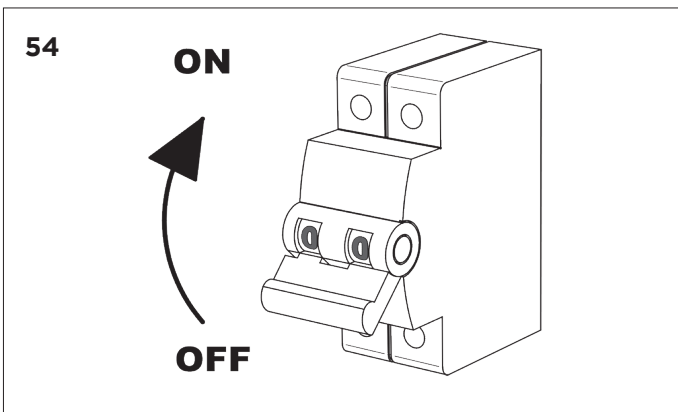
Reattach the cover by locating the 2 tabs and hinge the cover into place. Re-insert the 2 screws removed in the 3rd step.



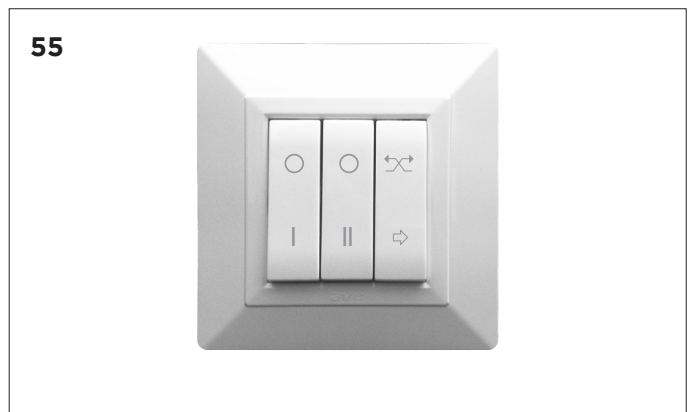
Replace the dust filter.



Replace the front cover.



Energise the fan and check operation is correct.



ACCESSORY (available separately):
DEXA HR CONTROL SWITCH.

ErP DIRECTIVE - REGULATIONS 1253/2014 - 1254/2014

a) Mark	-	ELTA TRADE	
b) Model	-	DEXA HR 100	DEXA HR 150
c) SEC class	-	A	A
c1) SEC warm climates	kWh/m ²	-15.6	-16.2
c2) SEC average climates	kWh/m ²	-37.5	-38.2
c3) SEC cold climates	kWh/m ²	-75.6	-76.4
Energy label	-	Yes	
d) Unit typology	-	Residential - bidirectional	
e) Type of drive	-	Multi-speed drive	
f) Type of Heat Recovery System	-	Heat recovery	
g) Thermal efficiency of heat recovery	%	74	74
h) Maximum flow rate	m ³ /h	25	60
i) Electric power input at maximum flow rate	W	2.6	3.8
j) Sound power level (L _{WA})	dBA	35	38
k) Reference flow rate	m ³ /h	17	41
l) Reference pressure difference	Pa	10	10
m) Specific power input (SPI)	W/m ³ /h	0.071	0.054
n1) Control factor	-	1	1
n2) Control typology	-	Manual control (no DCV)	
o1) Maximum internal leakage rate	%	N/A	
o2) Maximum external leakage rate	%	1	1
p1) Internal mixing rate	%	N/A	
p2) External mixing rate	%	N/A	
q) Visual filter warning	-	N/A	
r) Instructions to install regulated grilles	-	N/A	
s) Internet address for pre/disassembly instructions	-	www.eltatrade.co.uk	
t) Airflow sensitivity to pressure variations	%	N/A	
u) Indoor/outdoor air tightness	m ³ /h	21	60
v1) AEC - Annual electricity consumption - warm climates	kWh	1	0.7
v2) AEC - Annual electricity consumption - average climates	kWh	1	0.7
v3) AEC - Annual electricity consumption - cold climates	kWh	1	0.7
w1) AHS - Annual heating saved - warm climates	kWh	18	18.1
w2) AHS - Annual heating saved - average climates	kWh	39.9	40
w3) AHS - Annual heating saved - cold climates	kWh	78	78.2

01384 275771

info@eltatrade.co.uk

www.eltatrade.co.uk



WARRANTY

Our 5 year warranty is provided only to customers who purchased directly from us. If you purchased elsewhere then please contact them directly and they will let you know their warranty procedure. Our warranty covers repair or replacement of defective goods only. It does not cover any labour costs associated with defective product or component removal or installation, nor does it cover the cost of sending goods back to us for inspection. Our warranty is subject to storage, installation, commissioning, inspection and maintenance having been carried out in accordance with our Installation and Maintenance Instructions (supplied with each product) and which are also available to view, save or print from our website.

Scan the QR code or visit www.eltatrade.co.uk/warranty to view further warranty information.



DISPOSAL AND RECYCLING

Information on disposal of units at the end of life.

This product complies with EU Directive 2002/96/EC. The symbol of the crossed-out dustbin indicates that this product must be collected separately from other waste at the end of its life. The user must, therefore, dispose of the product in question at suitable electronic and electro-technical waste disposal collection centres, or else send the product back to the retailer when purchasing a new, equivalent type device.

Separate collection of decommissioned equipment for recycling, treatment and environmentally compatible disposal helps to prevent negative effects on the environment and on health and promotes the recycling of the materials that make up the equipment.

Improper disposal of the product by the user may result in administrative sanctions as provided by law.

ELTA >>>
TRADE

Elta Trade is brought to you by Elta Fans Ltd. 46 Third Avenue, Kingswinford, West Midlands, DY6 7US. Manufactured in Italy.

01384 275771
info@eltatrade.co.uk
www.eltatrade.co.uk

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DEXA HR USER GUIDE

NOTE: The installer should go through the user guide with the home occupants and leave this with them for their reference.

WHAT IS A DEXA HR?

DEXA HR is a single alternate flow decentralised (single point) residential heat recovery unit, also called a push & pull unit, installed in “habitable rooms” in your home such as living rooms and bedrooms.

HOW DOES IT WORK?

The fan is designed to work on a continuous basis by extracting stale air in your home from the habitable room it is installed in, then bringing air into the habitable room from outside. “Pulling” air out, and “pushing” air in. Heat from the air being removed is used to warm the air being brought in. It is likely that there will be a pair of fans in your house working together. How they work will depend on how the installer has set the fans to operate. Please see ‘Fan Operation’ confirmed by Installer.

WHAT ARE THE BENEFITS?

The DEXA HR can help improve the air quality within your home for the health and wellbeing of occupants as well as the building.

HOW DO I OPERATE THE FAN?

Your DEXA HR will have been set up by the Installer to operate in one of a number of ways. The Installer should indicate the method of ‘Fan Operation’ by ticking the appropriate box on the back of this sheet.

DOES IT NEED SERVICING?

The fan filter and heat exchanger core need to be serviced regularly to maintain optimum performance in line with the instructions in the Installation & Maintenance manual which is available to download from our website.

HOW MUCH DOES IT COST TO RUN?

There are several variables that can determine the annual electrical running costs of the DEXA HR, however, at typical electricity costs as of June 2023, you should expect the fan to cost between £2-3 per year to run under normal conditions.

WHAT IF I THINK THERE IS A PROBLEM WITH THE FAN?

If you are a tenant, please report it to your landlord. If you are not, please contact the company you purchased the fan from.

IMPORTANT NOTE

DEXA HR fans are designed to run continuously. The power supply to the fan should only be disconnected if a fault is detected or suspected or when the fan is being maintained. Prolonged and/or repeated power interruption can create a health and safety risk and invalidate the fan warranty.



DEXA HR USER GUIDE

FAN OPERATION

Installer to tick as appropriate.

- The fan is fully automatic and will continuously remove stale air and replace with outside air in the room it is installed in.
- The fan is fully automatic and will continuously remove stale air and replace with outside air in the room it is installed in. In addition, it is linked to a sensor to provide a 'boost' mode which will run the fan at a higher speed for a set period, after which the fan will return to its original speed.
- The fan is supplied with a separate controller which allows setting of the fan speed and allows 'free cooling' which sets the fan unit in 'extract only' removing air, or 'intake only', supplying air into the room without any recovery of heat.
- Other (Installer to specify here)



Scan the QR code for product and warranty information.