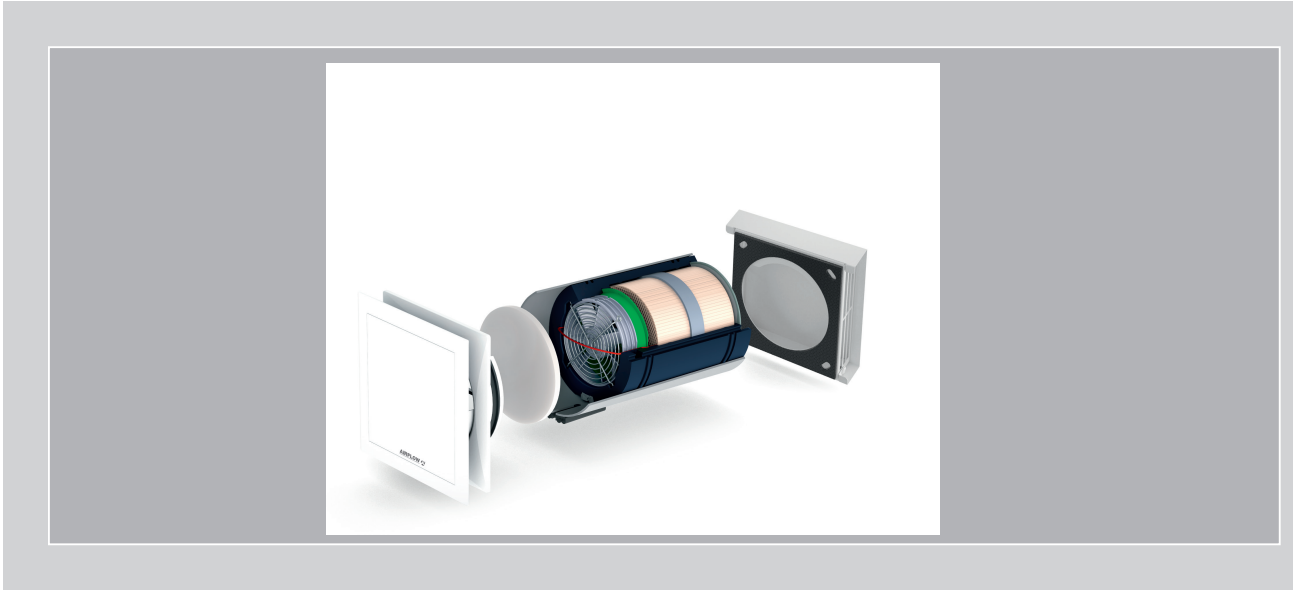
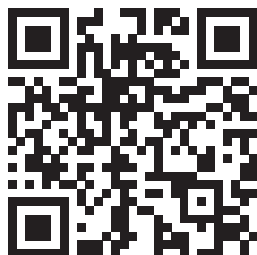


INSTALLATION AND OPERATING INSTRUCTIONS

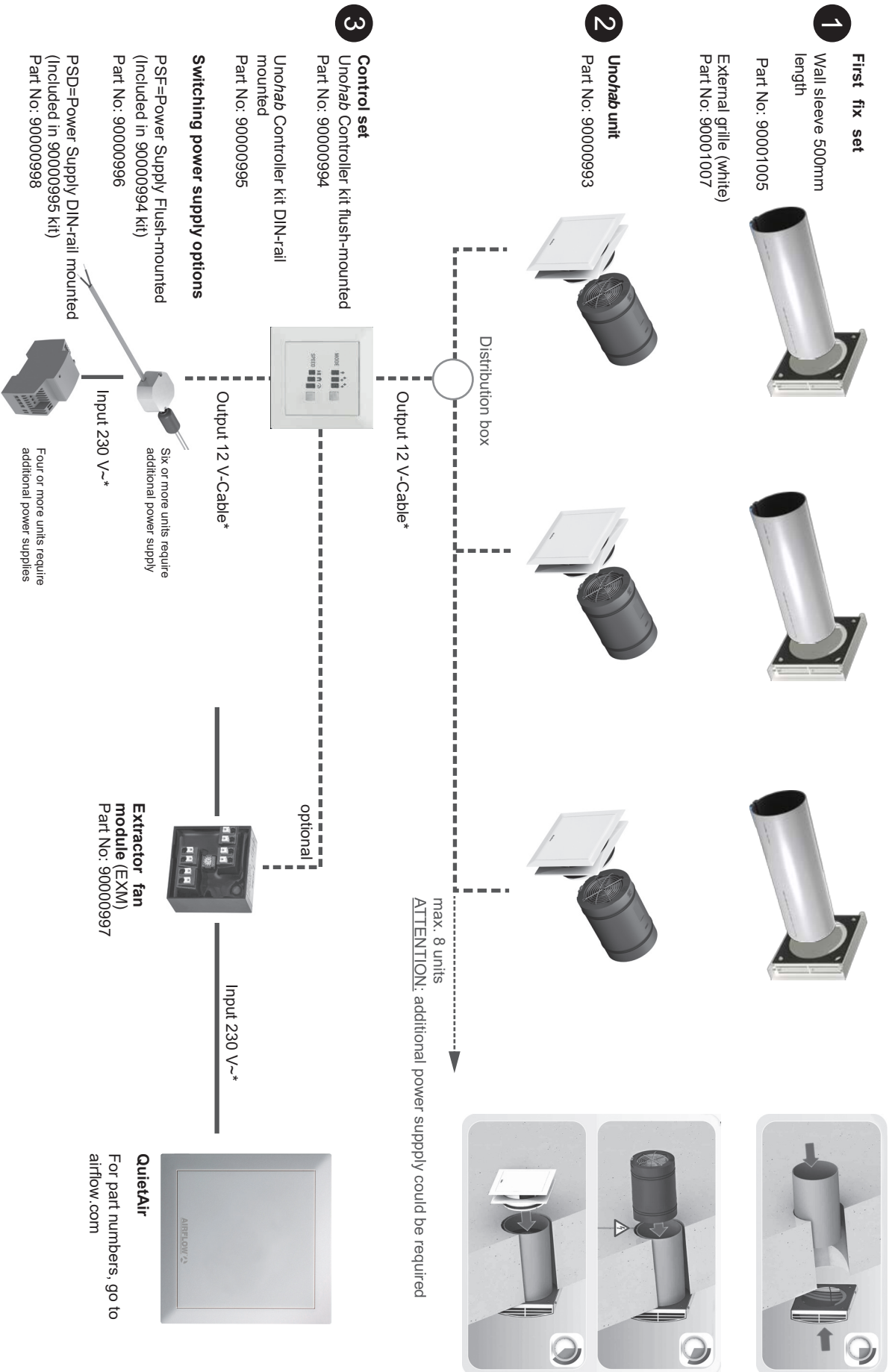


Decentralised mechanical ventilation with
heat recovery unit

Uno*hab* unit



Unohab ventilation system - typical configuration



* See wiring diagram p25/26

Table of contents

CHAPTER 1. SAFETY	Page 4
1.0 Important information.....	Page 4
1.1 Warning instructions.....	Page 4
1.2 Safety instructions.....	Page 4
1.3 Application.....	Page 4
1.4 Personnel qualification.....	Page 5
CHAPTER 2. GENERAL INSTRUCTIONS	Page 5
2.0 Warranty claims - exclusion of liability.....	Page 5
2.1 Certificates - guidelines.....	Page 5
2.2 Shipping.....	Page 5
2.3 Receipt.....	Page 5
2.4 Storage.....	Page 5
2.5 Mode of operation.....	Page 5
2.6 Performance data.....	Page 5
2.7 Noise data.....	Page 5
2.8 Fireplaces.....	Page 6
2.9 Protection against contact.....	Page 6
2.10 Motor characteristics.....	Page 6
2.11 Waterproof feature of the stainless steel external grille.....	Page 6
2.12 Stainless steel considerations.....	Page 6
CHAPTER 3. SCOPE OF DELIVERY	Page 6
3.0 Scope of delivery.....	Page 6
CHAPTER 4. UNIT OVERVIEW	Page 7
4.0 Unohab exploded view.....	Page 7
4.1 Technical data.....	Page 7
4.2 Dimensions.....	Page 7
4.3 Accessories.....	Page 7
CHAPTER 5. WALL INSTALLATION	Page 8
5.0 Installation.....	Page 8
5.1 Opening and closing the internal grille.....	Page 10
CHAPTER 6. SERVICING AND MAINTENANCE	Page 10
6.0 Servicing and maintenance.....	Page 10
6.1 Filter change.....	Page 10
6.2 Cleaning the heat accumulator and protection guard.....	Page 11
6.3 Fault modes.....	Page 12
6.4 End of life and disposal.....	Page 12
CHAPTER 7. WIRING DIAGRAM OVERVIEW	Page 13
7.0 Wiring diagram SD-3.....	Page 13
7.1 Wiring diagram SD-4.....	Page 14

CHAPTER 1

SAFETY

1.0 Important information

In order to ensure complete and effective operation and for your own safety, all of the following instructions should be carefully read and followed.

This document should be kept safe in an accessible location to ensure safe operation of the product. All product-related safety regulations must be followed.

 DANGER

 WARNING

 CAUTION

1.1 Warning instructions

The accompanying symbols are safety-relevant prominent warning symbols. All safety regulations and/or symbols in this document must be absolutely adhered to, so that any risks of injury and dangerous situations are avoided!

 DANGER

1.2 Safety instructions

For any work carried out on the product, should be completed by a suitably competent person and comply to the relevant local/international standard and adhere to these installation and operation instructions.

- The following must be read before any cleaning, electrical, installation, servicing and maintenance work is carried out:
 - Isolate the device from the mains power supply and secure against any power supply. Do not attempt to install when powered.
 - Ensure that the rotating parts have come to a standstill.
 - Once the rotating parts come to a standstill position, wait for at least 3 minutes, as dangerous voltages may be present due to internal capacitors even after disconnection from the mains.
- All product-related safety regulations must be followed. If applicable, further country-specific regulations must also be followed.
- Protection against any physical contact must be ensured and comply to DIN EN 13857 in the installed condition (see section 2.9). Contact with rotating parts must be avoided.
- Air inlets and outlets must be open and not obstructed in any way.
- When using a vented fire place (chimney) in a ventilated room, there must be sufficient supply air for all operating conditions. See 2.8 Fireplaces. The current locally applicable regulations and laws must be followed.

1.3 Application

Normal use:

Unohab units are designed for external wall installation. The air outlet is on the external side of the wall via an external grille. The air inlet is located on the internal side of the wall with an integrated coarse air filter and sound insulation.

In order to ensure balanced ventilation, at least 2 units are required for one functional system, which operate in alternating directions (switch between supply air and extract air every 60 sec) in the selected operating mode. Depending on the overall air flow rate requirements of the dwelling, more than 2 units can be installed with the fan speeds / air flow rates adjusted by means of the Unohab controller.

When operating under various conditions, such as high levels of humidity, long standstill periods, electrical overloads, etc. please contact Airflow technical services.

 CAUTION

Use of this product outside of its intended operation, as outlined in this instruction manual, is prohibited.

– Unit constraints:

Unohab ventilation units are not suitable for use under aggressive conditions, such as excessively high levels of humidity, long standstill periods and excessive mechanical, chemical or electrical influences. Usage under these conditions is only allowed with approval from Airflow, as the standard unit is not suitable in these cases.

– Improper, prohibited use:

Any use other than the intended use is not permitted! The conveying of solid matter or solid matter content > 10µm in air and liquid is not permitted. Any chemical and abrasive substances which might affect the product materials, are not permitted. Use in explosive atmospheres is not permitted!

 DANGER

1.4 Personnel qualification

 DANGER!

The electrical connection and start-up must only be carried out by qualified electricians.

Installation, servicing and maintenance of the fan must only be carried out by qualified electricians.

Unohab single room ventilation units cleaning or user maintenance should only be carried out by an adult and user maintenance by a competent or qualified person.

CHAPTER 2

GENERAL INSTRUCTIONS

2.0 Warranty claims – exclusion of liability

All chapters of this documentation must be observed, otherwise the warranty shall cease to apply. The same applies to liability claims against Airflow. The use of accessory parts, which are not recommended or offered by Airflow, is not permitted. Any possible damages are not covered by the warranty. Changes and modifications to the unit are not permitted and lead to a loss of conformity, and any warranty and liability shall be excluded in this case.

2.1 Certificates - guidelines

If the product is installed correctly and used to its intended purpose, it conforms to all applicable EU and UK guidelines at its date of manufacture.

2.2 Shipping

The individual room fan unit is packed ex works in such a way that it is protected against normal transport damage. It is recommended to leave the unit in the original packaging.

2.3 Receipt

The shipment (Unohab Cavity Wall Installation Kit, part number: 90001177) must be checked for damage immediately upon delivery. If there is any damage, report it immediately to the transport company. If complaints are not made within the agreed period, any claims could be lost.

2.4 Storage

When storing for a prolonged time, the following steps are to be taken to avoid damage: Protect the motor with dry, airtight and dust-proof packaging (plastic bag with desiccant and humidity indicators). Also, required is vibration-free, water-tight and constant temperature storage in the range -20 °C to +40 °C. If the product is stored and not used for more than three months, maintenance must be carried out before start-up as per chapter 6. In case of reshipment (above all, over longer distances; e.g. by sea), it must be checked whether the packaging is suitable for the form and route of transport. Damages due to improper transportation, storage or putting into operation are not liable for warranty.

2.5 Mode of operation

Unohab is equipped with an EC axial fan, which runs in a cyclical reversing mode. Thus, the supply air modes, whereby the outside air flows into the building, continuously alternate with extract air modes, whereby the indoor air is extracted from the building (cyclic operation which takes place every 60 sec).

2.6 Performance data

The unit product label gives an indication of the mandatory electrical values; which must be coordinated with the local power supply network. The fan performance shown in 4.1 on page 7 is established on a test stand according to DIN EN ISO 5801.

2.7 Noise data

Noise data that refers to certain distances apply to free field conditions. With regard to installation, the sound pressure level can differ significantly from the catalogue data, as it is highly dependent on the installation conditions, i.e. on the absorption capability of the room and the room size among other factors (e.g. wind load in wind-exposed locations).

IMPORTANT 

IMPORTANT 

2.8 Fireplaces

The relevant applicable rules for the joint operation of fireplaces, ventilation, extraction hoods must be followed.

General note

The Unohab ventilation units can be connected air monitoring sensors connected back to the Unohab controller. Only Airflow supplied sensors should be used.

2.9 Protection against contact

The ventilation units are delivered with a fan protection grille as standard.

2.10 Motor characteristics

The ventilation units have an energy-saving, maintenance-free EC motor (electronically isolated, ball bearing-mounted) with high energy efficiency, guarded and electronic restart.

2.11 External grille

ATTENTION 

The external grille is to be installed on the external wall. The wall sleeve installation through the external wall has to be carried out with appropriate safety measures taken!

2.12 Stainless steel considerations

ATTENTION 

If you are using the Airflow optional stainless steel grille (manufactured out of 304 grayed stainless steel), can change colour slightly due to air pollution! Regular cleaning reduces the risk of discolouring.

In environments with strong air pollution particularly coastal areas, with a high salt air concentration, the stainless steel material should be protected by an additional protective lacquering (clear acrylic lacquer).

CHAPTER 3

SCOPE OF DELIVERY

3.0 Scope of delivery

Keep the unit in its original packaging until just before it is installed, in order to prevent any possible damage and contamination.

Unohab Cavity Wall Installation Kit Part no: 90001177

Consisting of:

1. Unohab unit with internal grille and filter (90000993):

- White plastic internal grille with integrated Coarse 50% filter
- EC axial fan with 2-part connector
- EPP* half shell (base body)
- Ceramic heat exchanger
- Flow straightener
- Fan protection grille
- Pull-out tool
- Protection grille

*Expanded Polypropylene

2. 500mm wall sleeve (90001005)

- Condensate wedge (fitted to the sleeve)
- 2 protective covers
- Fixing wedges

3. White external grille (90001007)

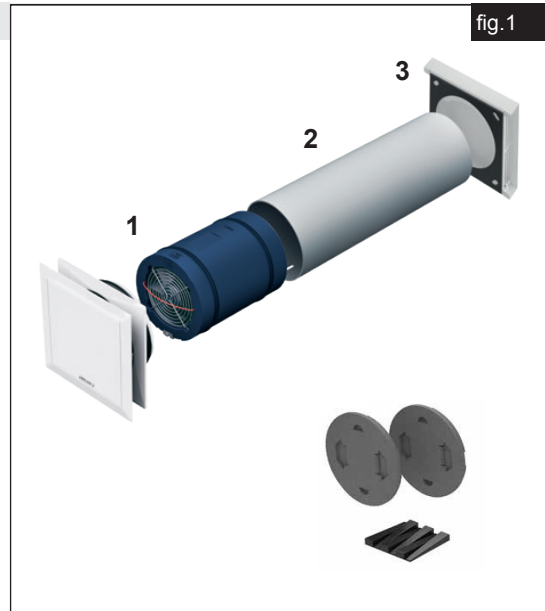
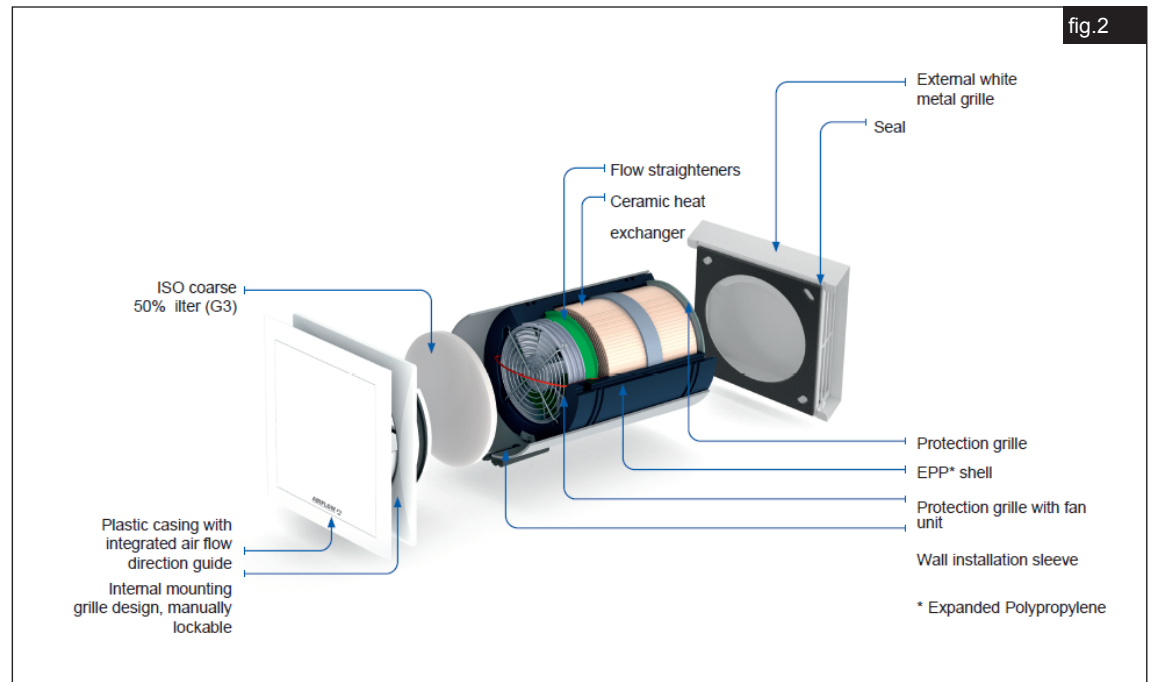


fig. 1

CHAPTER 4

UNIT OVERVIEW

4.0 Unohab Cavity Wall Installation Kit - exploded view



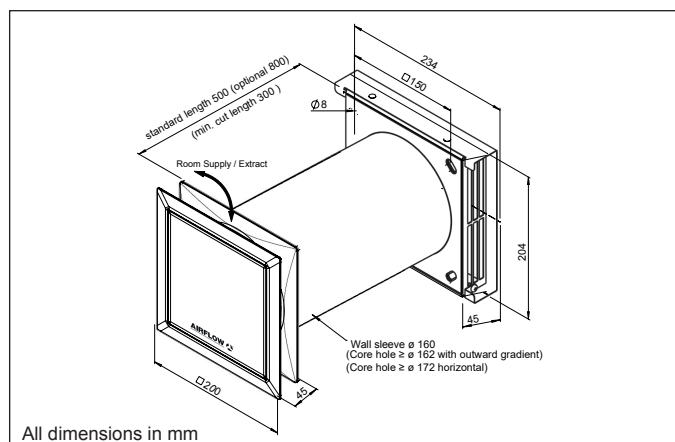
4.1 Technical data

Unit	Unohab				
Fan speed	1*	2**	3*	4**	5*
Air flow supply/extract rate [m³/h]	14	24	32	37	45
Air flow supply or extract rate [l/s]	3.8	6.6	8.8	10.2	12.5
Sound pressure level LPA dB(A)	14	21	27	29	34
Sound insulation Dn,e,w dB	44				
Power consumption [W]	1.6	2.1	2.8	3.4	4.5
Heat recovery efficiency	up to 88%				
Power supply	Input 230V~ 50/60Hz / Output 12VDC				
Rated current [mA]	17	21	27	32	42
Protection class	IP20				
El. power supply cable	NYM-O 2 x 1.5mm²				
El. power supply cable (controller)	NYM-O 2 x 1.5mm²				
El. power supply cable (fan unit)	J-Y (ST) Y 3 x 0.8mm²				
Connection according to wiring diagram no.	SD-3 / SD-4				
Weight approx. [kg]	2.8				
Working range temperature	-12°C up to +40°C				

*Default fan speeds

**Fan speeds, which can be also selected in Duplexvent Unohab software. In total only three fan speeds can be selected at the same time.

4.2 Dimensions



4.3 Accessories

Further accessories and suitable system components, such as switching power supplies, extractor fan module, casing for controller surface mounting, are available within the Unohab range. Details can be found in the Unohab brochure and on the website at airflow.com

CHAPTER 5

WALL INSTALLATION

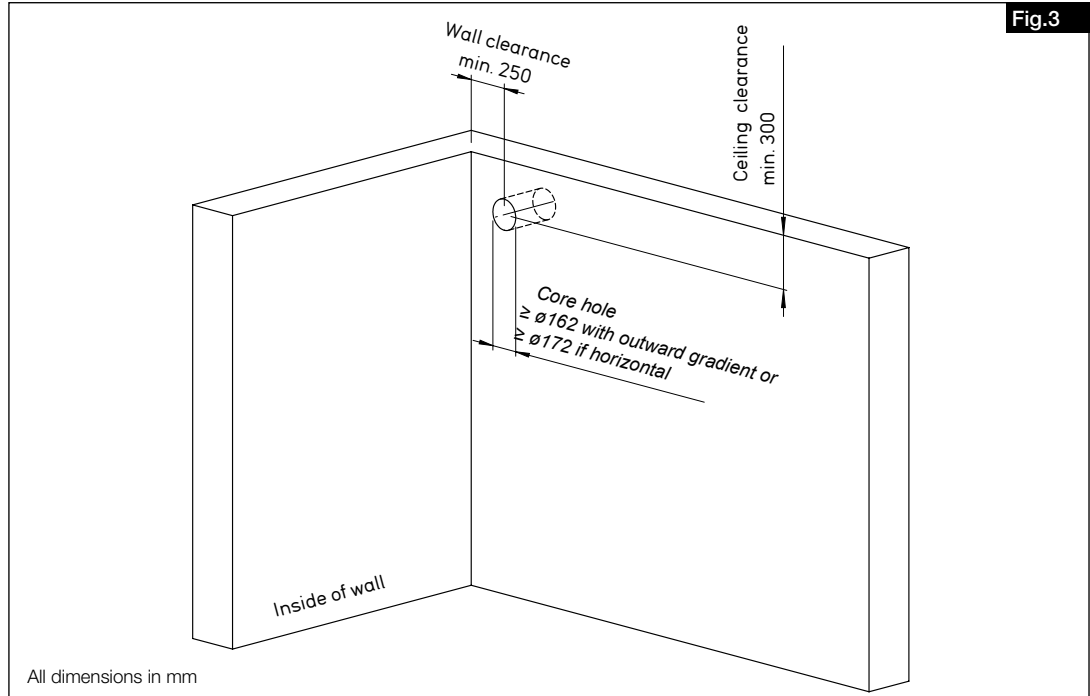
⚠ WARNING

5.0 Installation

The following must be read and followed before installation work or before opening the electrical terminals compartment. Isolate the device from the mains power supply and secure against being switched on again.

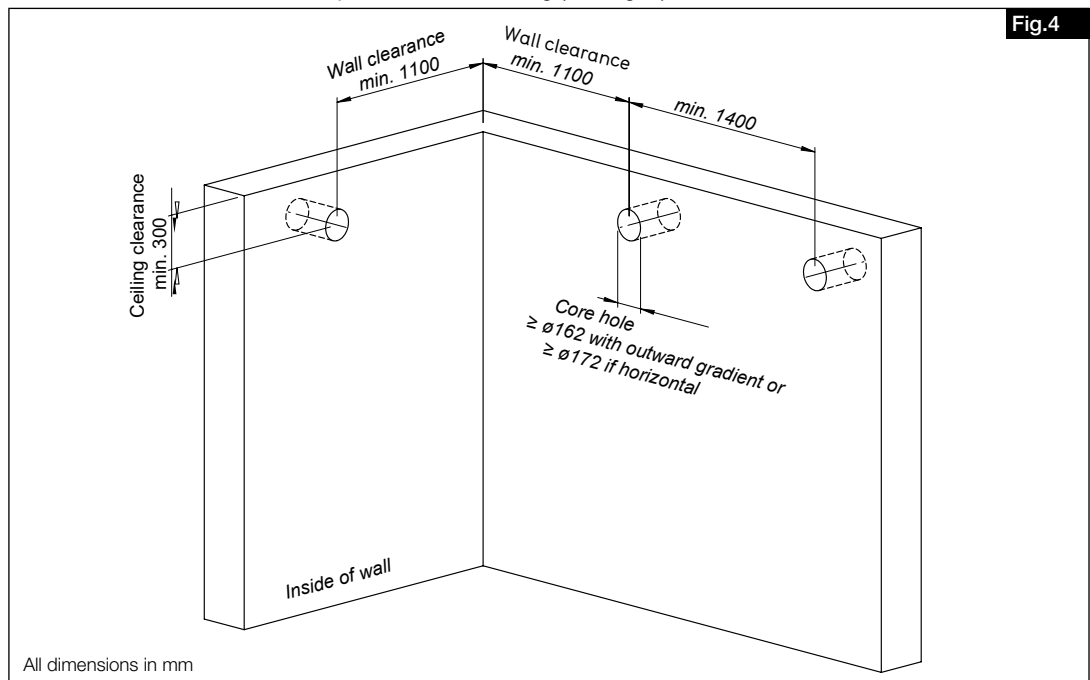
– Installation of one ventilation unit

The following minimum clearances to walls and ceilings must be observed when positioning the ventilation unit or core hole for the wall installation sleeve (see Fig. 3).



– Installation of two ventilation units

The following minimum clearances must be observed when positioning two ventilation units or the core hole for the wall installation sleeves in order to prevent short-circuiting (see Fig. 4).



INSTALLATION PREPARATION:

– The unit installation requires a core hole

- $\text{Ø} 162$ mm core hole at an 1-2 deg. angle, downward towards outside
- or $\text{Ø} 172$ mm horizontal core hole (condensate wedge to be used on wall sleeve).

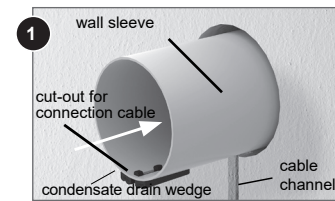
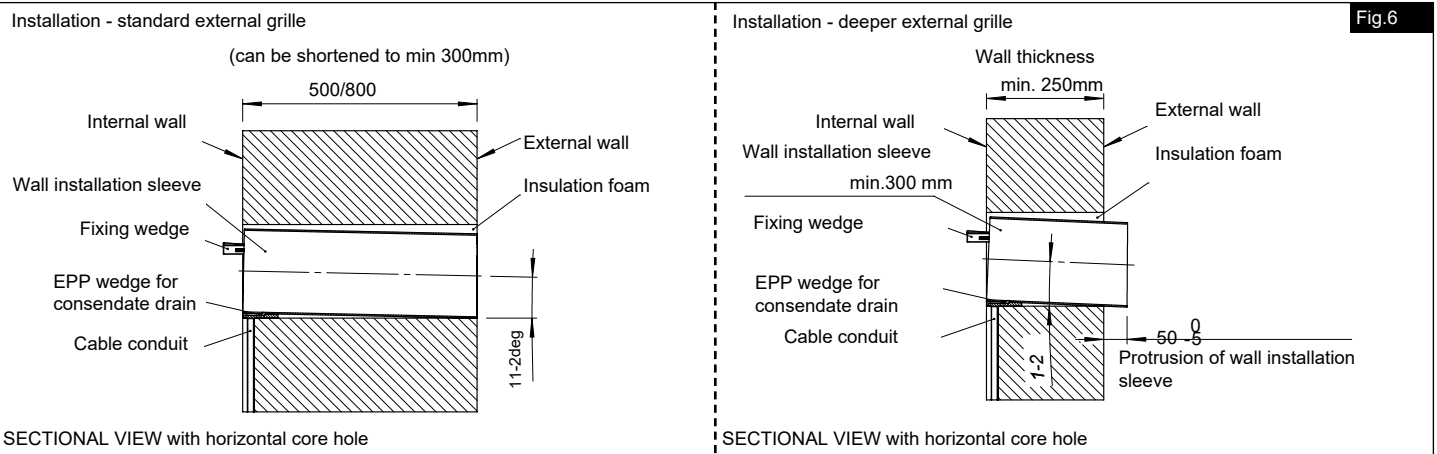
Alternatively, for new build installations, the UnoHab Brickwork template blocks 365mm/490mm (Part no: 90001000; 90001001) can be used for the core hole.

– Place empty conduit in the wall channel ready for the electrical connection cable. The empty conduit must be placed below the core hole (see Fig. 3 & 4).

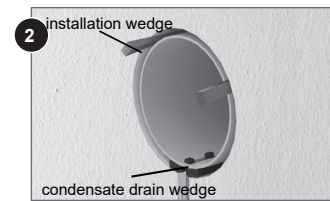
⚠ WARNING

The wall sleeve must not be shortened on the inside of the wall, as the cut-out for feeding the power supply cable is located here (see Fig. 5 & 6)!
When using the deep version external grille (Part no: 90001004), a wall sleeve protrusion of 50mm to the outside of the wall must be taken into account (see Fig. 6)

If necessary, the thickness of the plaster or wall covering should be taken into account.



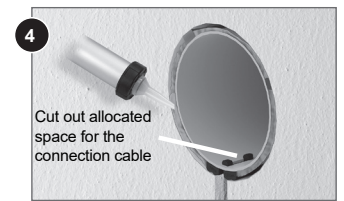
1. Insert wall sleeve in the wall hole. Make sure the condensate wedge is centrally aligned with the cable conduit and located at the bottom.



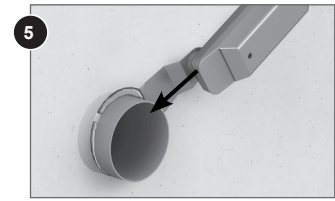
2. Fix the wall sleeve on the inside and outside of the wall using the installation wedges, supplied in the box.



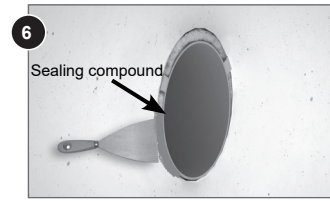
3. Fill in the gap between the core hole and the wall sleeve with insulation foam, including the inside and outside of the wall. Allow time to dry and remove the wedges and excess foam.



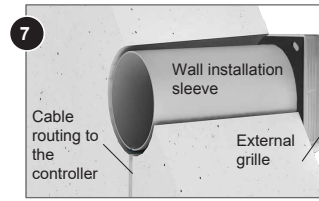
4. Seal the gap to become water proof.



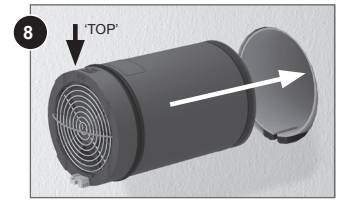
5. Cut the excess wall sleeve length, wedges and foam flush to the outside wall using an oscillating saw blade tool. Exception to this is if the wall thickness is 250mm (see Fig.6).



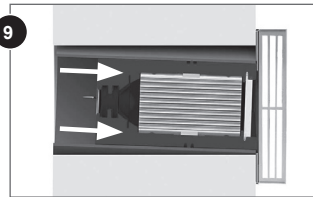
6. Seal the gap (same as in image 4) and even off the outside wall surface.



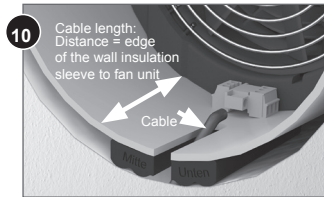
7. Mount the external grille. Detailed instructions are provided in the Unohab external grille manual, number 800001043 which can be downloaded at airflow.com



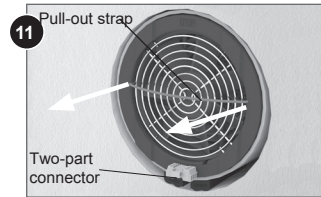
8. From the internal wall side, slide the unit in the wall sleeve. Make sure the 'TOP' marking will be located on the top as indicated.



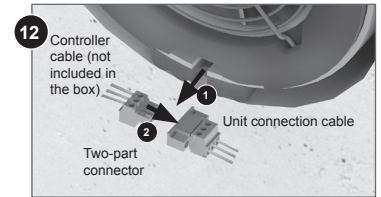
9. When inserting the unit, do not push hard into the external grille and leave it where it stops. This allows a free path for the air to be exhausted/extracted.



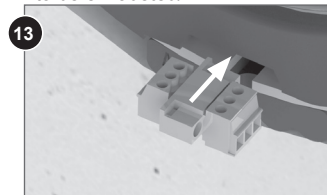
10. Measure and cut the cable to length.



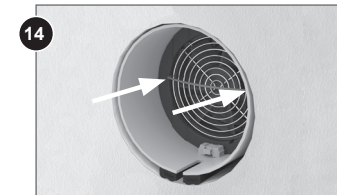
11. Pull the unit out so the front of the unit is flush with the hole, before making the electrical connection.



12. Wire the controller cable wires (max. outer Ø 6 mm) as per the wiring diagrams which can be found in the Unohab unit manual, number 80000777 which can be downloaded at airflow.com



13. Plug in the two-part connector. Stow the connection cable in the allocated EPP shell space.



14. Push the unit back until it stops into the external grille protection guard. (see point 9 for guidance)

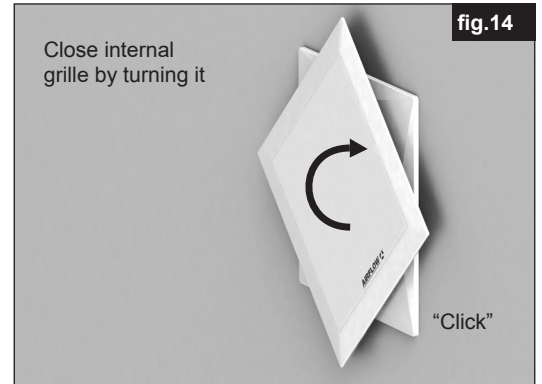


15. Insert the internal grille. Make sure it is the correct way up, indicated by the Airflow logo.

5.1 Opening and closing the internal grille

The internal grille is fully open upon delivery (fig.13).

To close the internal grille, turn front cover two full turns clockwise until it "Clicks" into position (fig.14)



CHAPTER 6

SERVICING AND MAINTENANCE

⚠ WARNING

6.0 Servicing and maintenance

⚠ WARNING!

Touching live electrical parts will lead to electric shock.

Before any servicing and maintenance work, isolate the unit from the mains power supply and protect against being switching on again!

⚠ WARNING!

The rotating impellers can be a hazard to fingers. Ensure all rotating parts have stopped.

- Excessive deposits of dirt, dust, grease, etc. on the impeller, motor, protection grille and, above all, between the housing and impeller, are not permitted, as these can lead to an unbalance in the impeller, overheating of the motor or the blocking of the impeller. In such cases, the unit must be cleaned.
- If the unit has not been used for long periods of time, maintenance must be carried out before the unit is restarted.
- If the unit has not been used in more than 2 years, the fan must be replaced.

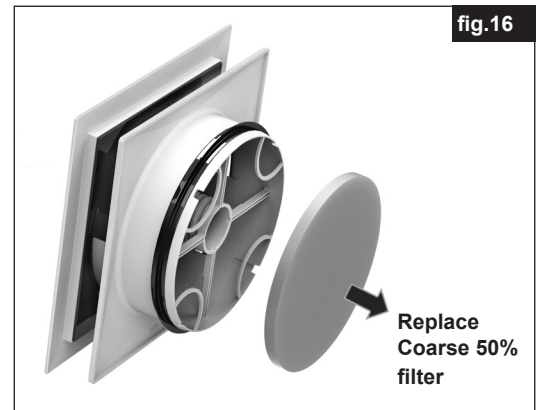
Note the following:

- Remove deposits of dirt, e.g. on protection grille
- Conduct a visual inspection, replace damaged parts
- Freewheeling of the impeller, is impeller blocked, see Fault causes 6.3
- Vibrations – see Fault causes 6.3
- Fan unit must be inserted up to the "external grille" stop in the wall sleeve

6.1 Filter change

After the set time interval for the filter change, the upcoming filter change will be indicated on the controller by the "flashing" LEDs. Proceed as follows:

1. Remove internal grille (fig.15).
2. Replace the Coarse 50% filter (fig.16)
Accessories: Set/2 pcs Coarse 50% filter, Part No: 90001014
3. The internal grille is re-attached after the filter has been changed. Ensure that the internal grille is re-inserted with the opening at the **top**.
4. Then hold down both buttons on the controller for longer than two seconds and confirm the filter change. This will confirm the filter replacement process and reset the filter reminder.



6.2 Cleaning the heat exchanger and protection grille

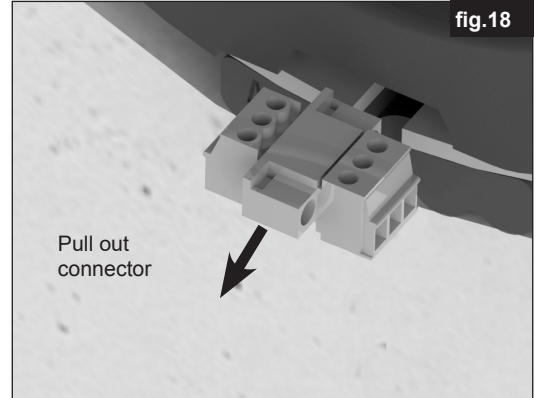
⚠ WARNING

⚠ WARNING!

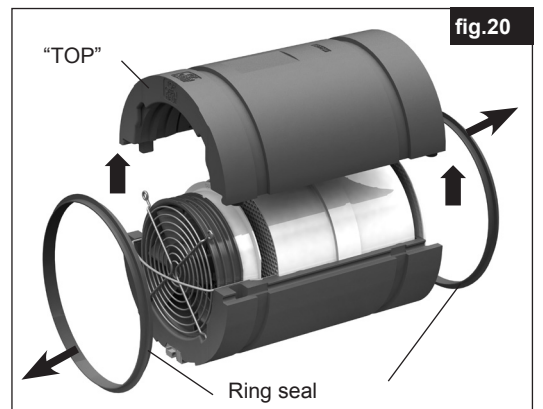
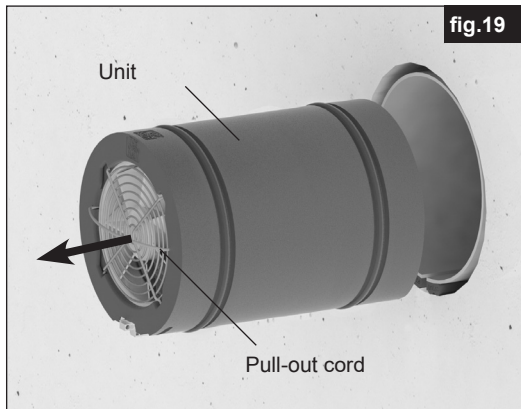
The unit must be isolated from the mains power supply before any maintenance and installation work or before opening the electrical terminals compartment!

The Unohab heat exchanger is made of an easy-to-clean ceramic material. The ceramic heat exchanger can be rinsed with warm clean water as part of the regular overall maintenance of the ventilation unit. Proceed as follows:

1. Remove internal grille (fig.17).
2. Pull out the two-part connector (fig.18) and detach.



3. Pull the unit from the wall sleeve using the pull-out cord (fig.19).
4. Remove ring seals (fig.20).
5. Remove the top EPP half shell labeled "TOP" (fig.20).



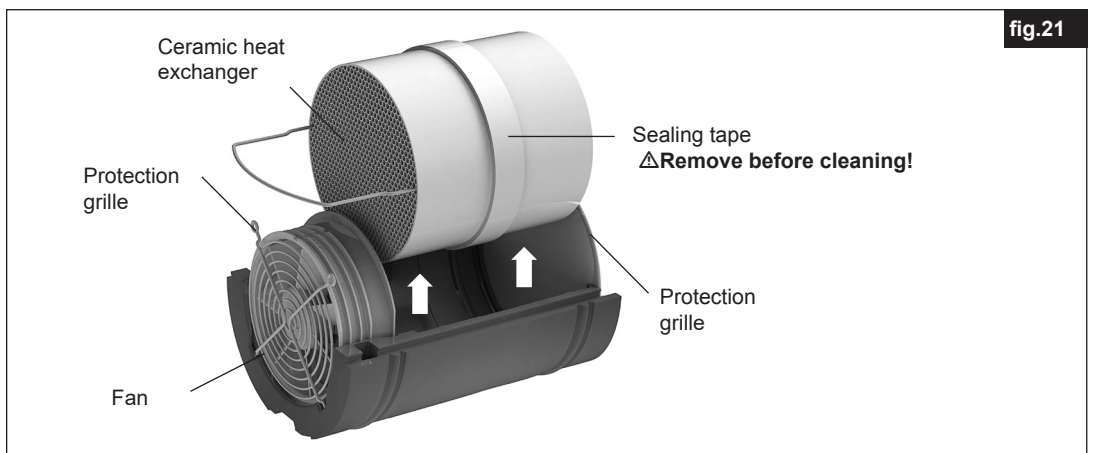
6. Remove ceramic heat exchanger from the EPP-half-shell (fig.21) for cleaning.

⚠ CAUTION

⚠ CAUTION!

Carefully remove the sealing tape (fig.21) before cleaning!

– rinse with clean warm water



6.3 Fault modes

Error/fault	Causes	Troubleshooting
Unohab does not start or impeller does not turn (no longer turns)	– Mains power supply failure 230 V	Check mains power supply Check connections according to wiring diagram
	– Control voltage failure 12 V DC	Replace switching power supply Unohab PSF / PSD
	– Operating mode Supply air active	Change operating mode (target function no fault)
	– Plug not connected to Unohab or cable break	Check plug and control for cable breaks if necessary
	– Ventilation stage 0 activated	Change operating stage Note external contact
	– Impeller blocked	Clear blockage, clean, if necessary Contact Airflow customer services
	– Motor defective	Contact Airflow customer services
Vibrations	– Contamination of impellers	Clean
	– Bearing damage	Replace fan Contact Airflow customer services
Abnormal noises	– Grinding impeller	Clean impeller, replace fan if necessary Contact Airflow customer services
	– Bearing damage	Replace fan Contact Airflow customer services
	– Mechanical damage	Replace defective components Contact Airflow customer services
Unohab no longer performs at maximum ventilation speed	– Coarse 50% - Filter and/or protection guard contaminated	Check Coarse 50% -filter and protection guard for contamination and replace Coarse 50% - filter or clean protection guard
	– Design-inner panel is closed	Open design-inner panel
	– Ventilation stage not selected	Increase ventilation stage
	– Bearing damage	Replace fan Contact Airflow customer services
	– Heat accumulator contaminated	Clean (see page 11)

6.4 End of life and disposal

WARNING

WARNING

When dismantling, live parts can be exposed, which can result in electric shock if touched. Before dismantling, isolate the unit from the mains power supply and protect against being switching on again!



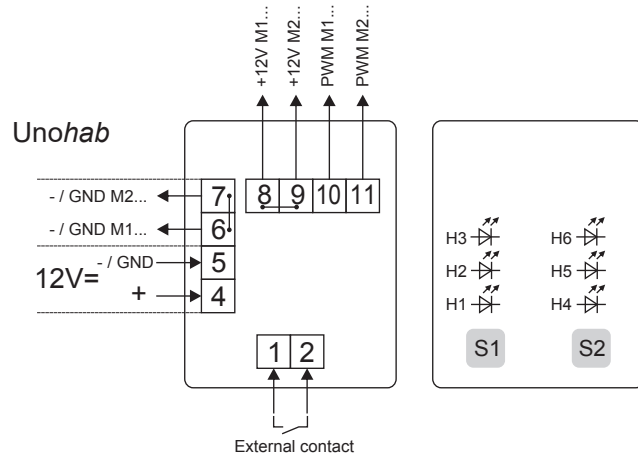
Parts and components of the fan, whose service life has expired, e.g. due to wear and tear, corrosion, mechanical load and/or other effects that cannot be directly discerned, must be disposed of expertly and properly after disassembly in accordance with the national and international laws and regulations. The same also applies to auxiliary materials in use. Such as oils and greases or other substances. The intended and unintended further use of worn parts, e.g. impellers, rolling bearings, filters, etc. can be a hazard to people, environment as well as machines and systems.

CHAPTER 7

7.0 Wiring diagram SD-3

WIRING DIAGRAM OVERVIEW

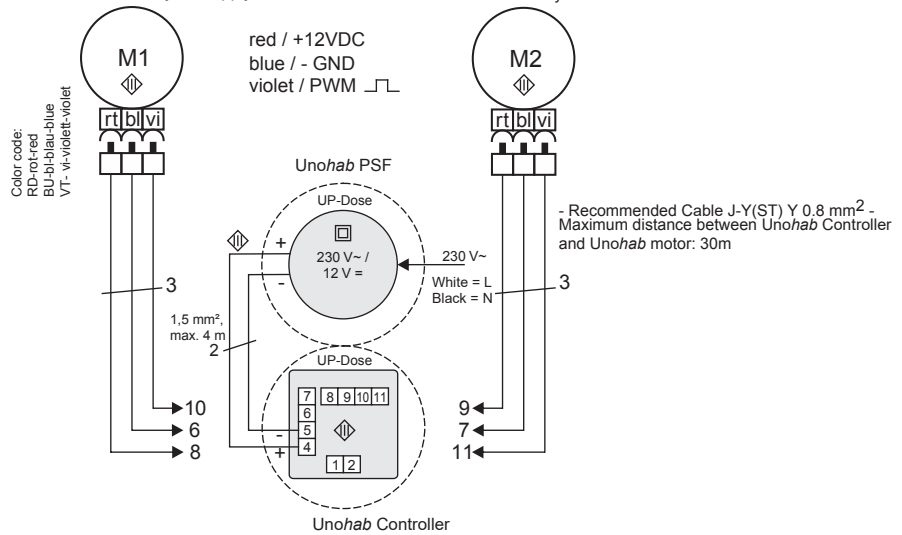
fig.22



Operation with 2 x Unohab units and 1 x Unohab PSF (Power supply flush mounted)

Unohab: M1 - start cycle: supply

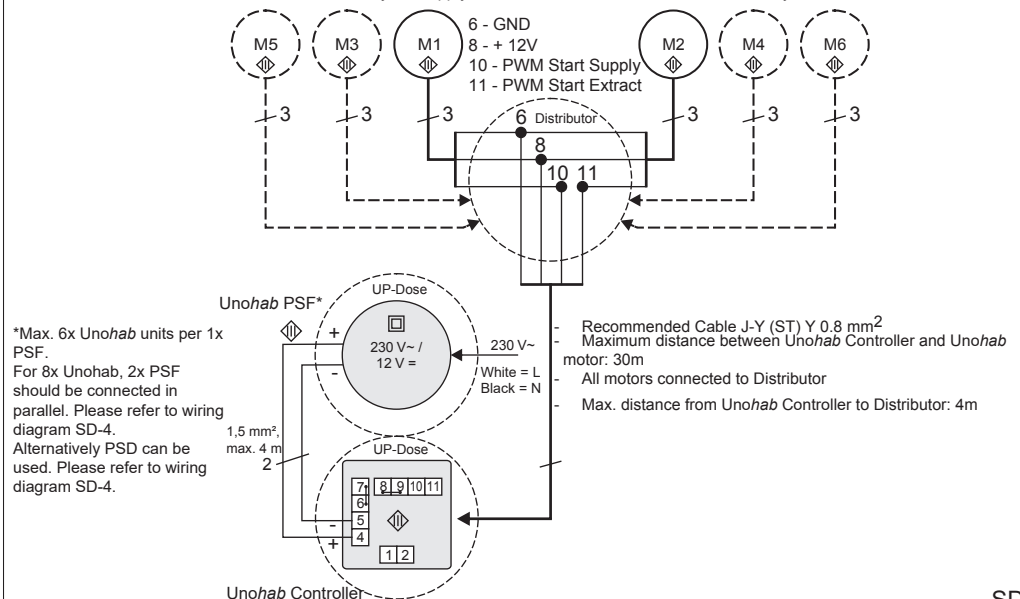
Unohab: M2 - start cycle: extract



Operation with up to 6x Unohab units and 1x Unohab PSF (Power supply flush mounted)

Unohab: M1 - start cycle: supply

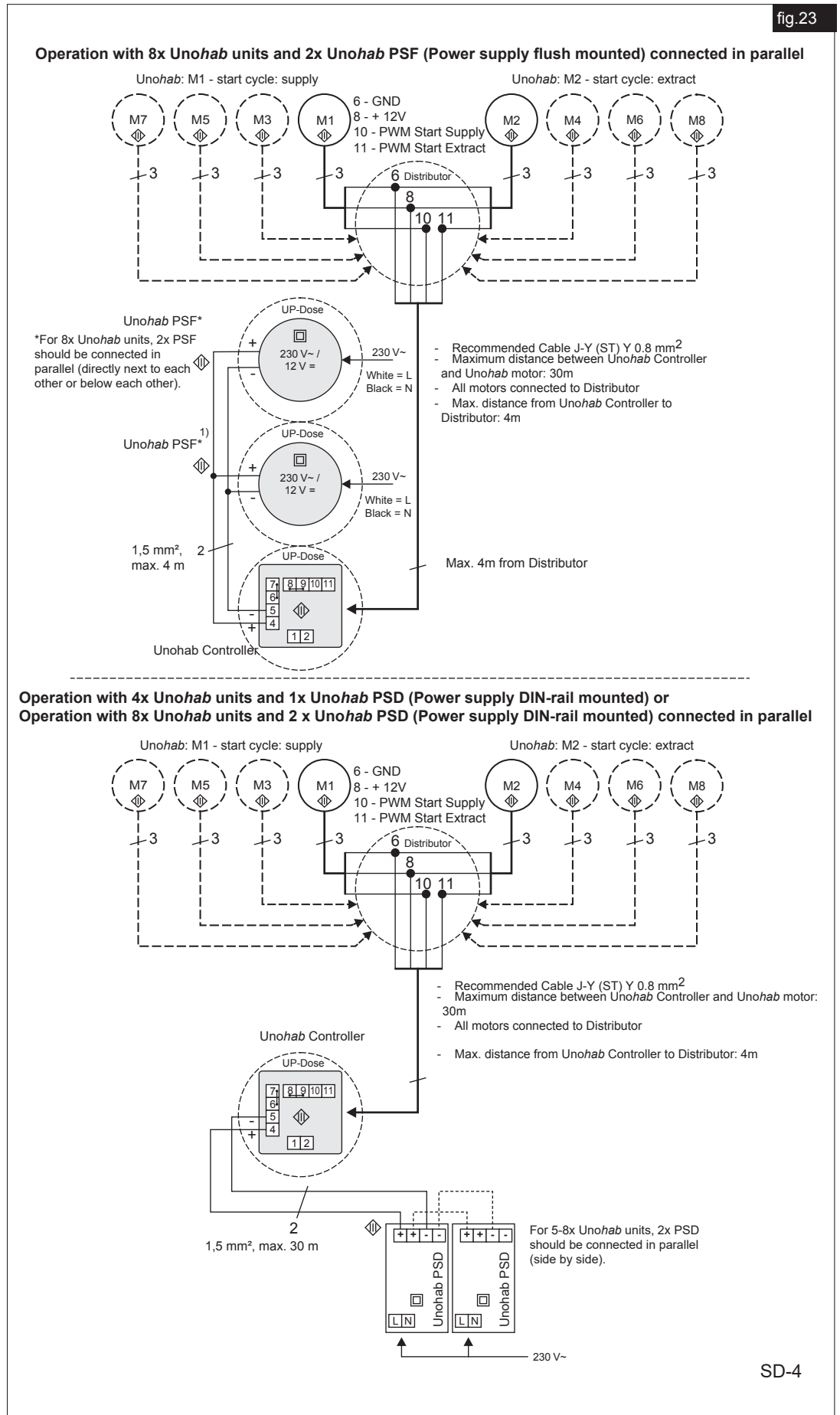
Unohab: M2 - start cycle: extract



SD-3

7.1 Wiring diagram SD-4

fig.23



SD-4



Call: 01494 525252

Visit: airflow.com



Airflow Developments Limited
Aidelle House, Lancaster Road,
Cressex Business Park,
High Wycombe, Buckinghamshire,
United Kingdom, HP12 3QP

E-mail: info@airflow.com
Telephone: +44 (0) 1494 525252

airflow.com

80001092 - Issue 1 05/21

© Airflow Developments Limited. Airflow Developments Limited reserve the right, in the interests of continuous development, to alter specifications without prior notice. All orders are accepted subject to our conditions of sale which are available on request

