

MONTAGE- UND BETRIEBSVORSCHRIFT
INSTALLATION AND OPERATING INSTRUCTIONS
NOTICE DE MONTAGE ET D'UTILISATION

NR. 19053.003

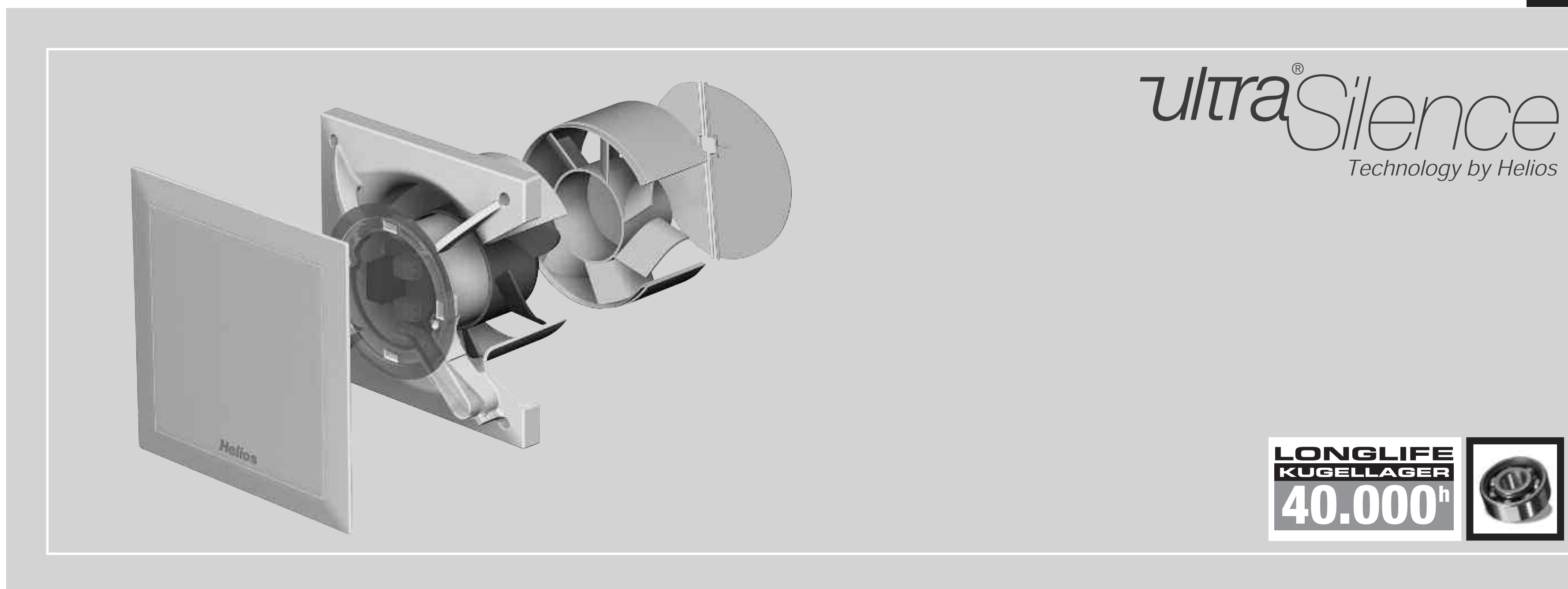
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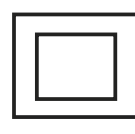
N° 19053.003

D

UK

F



IP 45       

Kleinflüfter - Mini fan - Mini ventilateur

Helios MiniVent

M1/100 F

M1/120 F

- mit Feuchteverlaufssteuerung und zwei Drehzahlstufen
- with automatic humidity control
- avec hygrostat électronique et deux vitesses

Helios Ventilatoren

INSTALLATION AND OPERATING INSTRUCTIONS NO. 19053.003

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CHAPTER 1

INSTALLATION AND OPERATING INSTRUCTIONS



1.0 Important information

To ensure safety and correct operation please read and observe the following instructions carefully before proceeding. The electrical connection must be fully isolated from the supply up to the final assembly! Keep the installation and operating instructions as a reference at the device. After the final assembly the document must be handed out to the operator (tenant/owner).

1.1 Warning and safety instructions

Accompanying symbol is a safety-relevant prominent warning label. All safety regulations and/or symbols must be absolutely adhered to, so that any danger situation is avoided.

1.2 Warranty – Exclusion of liability

If the preceding instructions are not observed all warranty claims and accommodation treatment are excluded. This also applies to any liability claims extended to the manufacturer. The use of accessories not offered or recommended by Helios is not permitted. Potential damages are not liable for warranty.

1.3 Certificates

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

1.4 Receipt

Please check delivery immediately on receipt for accuracy and damage. If damaged, please notify carrier immediately. In case of delayed notification, any possible claim may be void.

1.5 Storage

When storing for a prolonged time the following steps are to be taken to avoid damaging influences: Protection of motor by dry, air- dustproof packing (plastic bags with drying agent and moisture indicators). The storage place must be water proof, vibration-free and free of temperature variations.

When storing for several years or non rotation of motor an inspection of the bearings with possible relubrication and an electrical inspection to VDE 0701 and VDE 0530 are absolutely necessary before starting operation. When trans-hipping (especially over longer distances) check if the packing is adequate for method and manner of transportation. Damages due to improper transportation, storage or putting into operation are not liable for warranty.

1.6 Application/Operation

The Mini fans MiniVent **M1/1.. F** are designed for air extraction of living spaces. If the unit is to be used in other applications where high humidity, excessive dust, temperature in excess of 40 °C or long periods at standstill (not running), please contact your local Helios dealer for advice. This also applies for special technical and electrical applications. The complete fan corresponds to protection IP 45 (jet water-protected), protection class II and is suitable for use in zone 1 of bathrooms.

The fan may only be used according its intended purpose !

1.7 Performance

The unit must be installed correctly to achieve the optimum performance. This applies to the installation of the unit, the ducting and the replacement air supply.

If installing in a room where the fan can affect a fuel burning device (e.g. a gas boiler) which has a balanced flue, it is the installer's responsibility to ensure that there is sufficient replacement air to prevent fumes being drawn down the flue when the fan is operating at maximum extract rate. The catalogue noise levels stated are A-rated sound power levels LWA (to DIN 45635 T.1). The A-rated sound pressure level LPA depends on the acoustic condition in the room in which it is installed. These affect considerably the adjusting noise.

NOTE



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NOTE

1.8 General information

Intake air duct: Every room which must be ventilated must have an intake air opening (which cannot be closed) of 150 cm² free cross section.

1.9 Safety

- All servicing and installations may only be carried out by a certified electrician.
- The fans may be operated only with the rated voltage indicated on the type plate.
- Technical data on type plate are to be adhered to without fail.
- The degree of protection given on the type plate is only valid with designed installation in accordance with these installation and operating instructions and with closed facia.

WARNING

1.10 Electrical connection

All work must be carried out with the equipment fully isolated from the power supply. The electrical connection are to be carried out in accordance with the relevant wiring diagram and are only to be done by a certified electrician. The electrical connection must be fully isolated from the supply up to the final assembly!
All relevant safety regulation, national standards and norms are to be adhered to. An appliance is required for cut off from the supply with a minimum of 3 mm contact opening of each pole.
The rated voltage and frequency must correspond with the data on the type plate. The insertion of mains supply cable is carried out via a cable grommet which is included in the delivery. Never lead cable over sharp edges. The equipment corresponds to protection IP 45 (jet water-protected).
In addition, they correspond to the safety class II.

1.11 Overview of types MiniVent M1/1.. F

M1/100 F	with automatic humidity control	Ref:no. 6175
M1/120 F	with automatic humidity control	Ref:no. 6364

1.12 Accessories

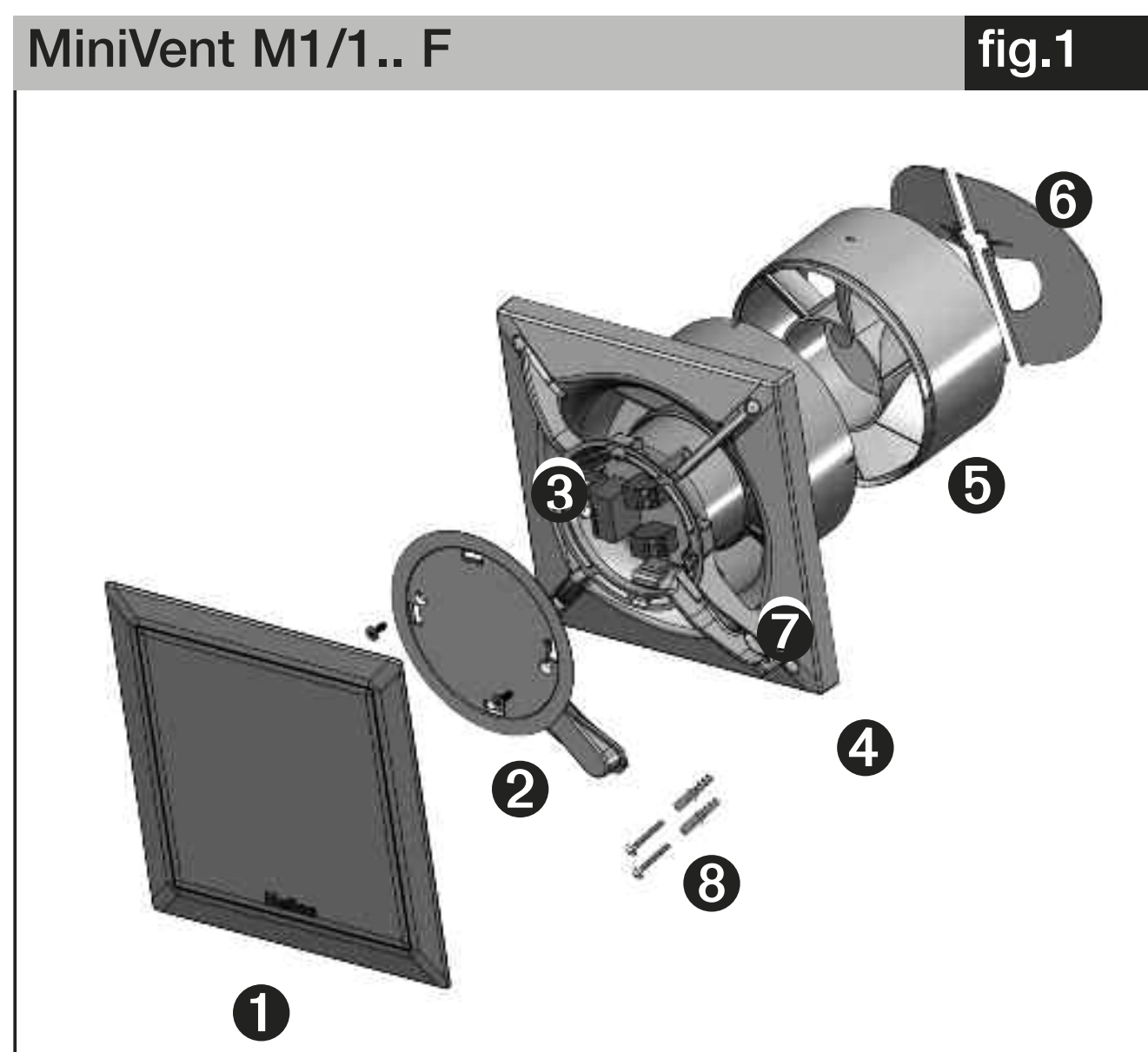
MF 100	Mounting flange	Ref:no. 6188	TWH 100	Telescopic wall sleeve	Ref:no. 6352
WES 100	Wall mounting kit	Ref:no. 0717	TWH 120	Telescopic wall sleeve	Ref:no. 6353
WES 120	Wall mounting kit	Ref:no. 0486	MBR	Mounting plate	Ref:no. 0281

CHAPTER 2

SCOPE OF DELIVERY AND ASSEMBLY

2.0 Scope of delivery / packing unit

Leave the fan in its box until installation. Check that the fan is in good condition and has not been damaged in transit.



- ① Facia
- ② Cover of control board including 2 x fastening screws
- ③ Electronic control board
- ④ Casing with impeller
- ⑤ Guide vane removable at reduced installation depth
- ⑥ Removable back draught shutter
- ⑦ Cable grommet
- ⑧ Assembly kit
2 x screws with plugs for wall mounting

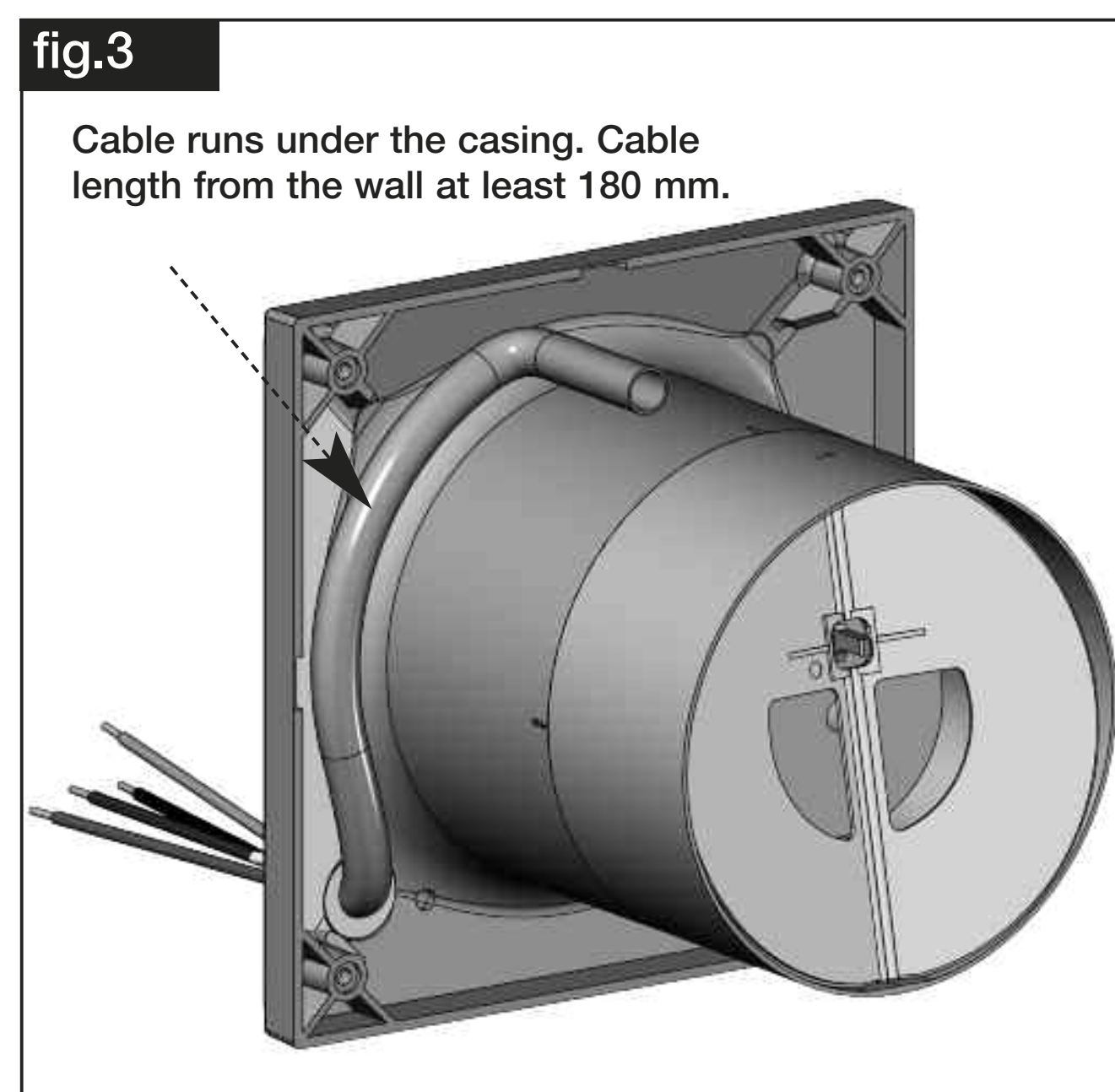
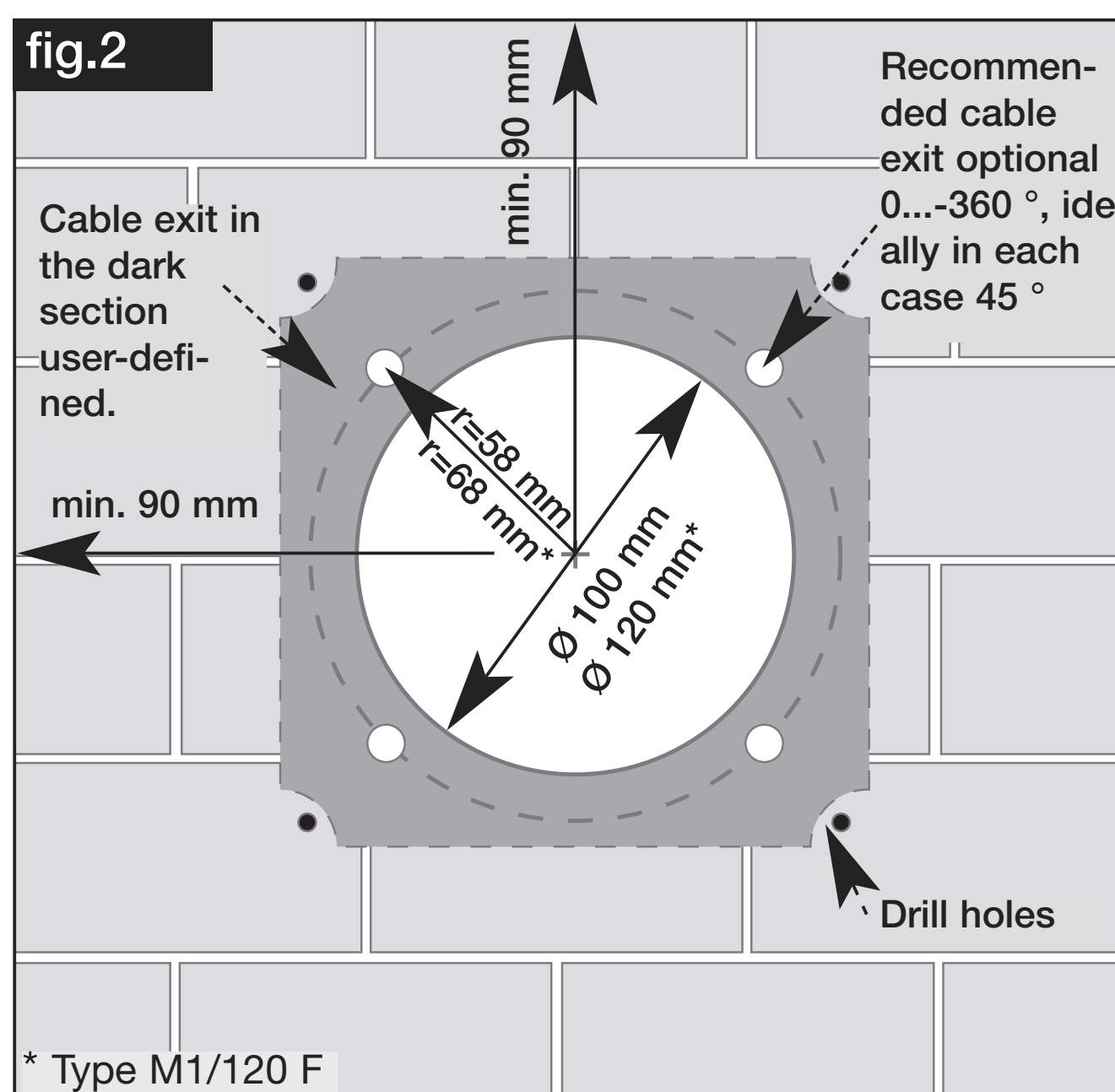
CHAPTER 3

MONTAGE

NOTE 

3.0 Preparation for wall or ceiling installation (surface mounted)

The assembly and start-up of the fan unit should be carried out first after finishing of all other work and after the final cleaning in order to avoid damages and contamination of the fan unit.
The position of the cable exit is variable (see fig.2/3).



3.1 Cable exit from the wall

- Distance to the duct centre depending on cable exit 58/68* mm with a variable position under the casing.
- For a simple assembly an exit is recommended as shown (turnable by 90° in each case).
The optimal position is 45° each if the cable exit is directly at the position of the cable grommet.
- Duct inside diameter M1/100 F = 100 mm or rather M1/120 F = 120 mm
and distance to room corners: at least 90 mm

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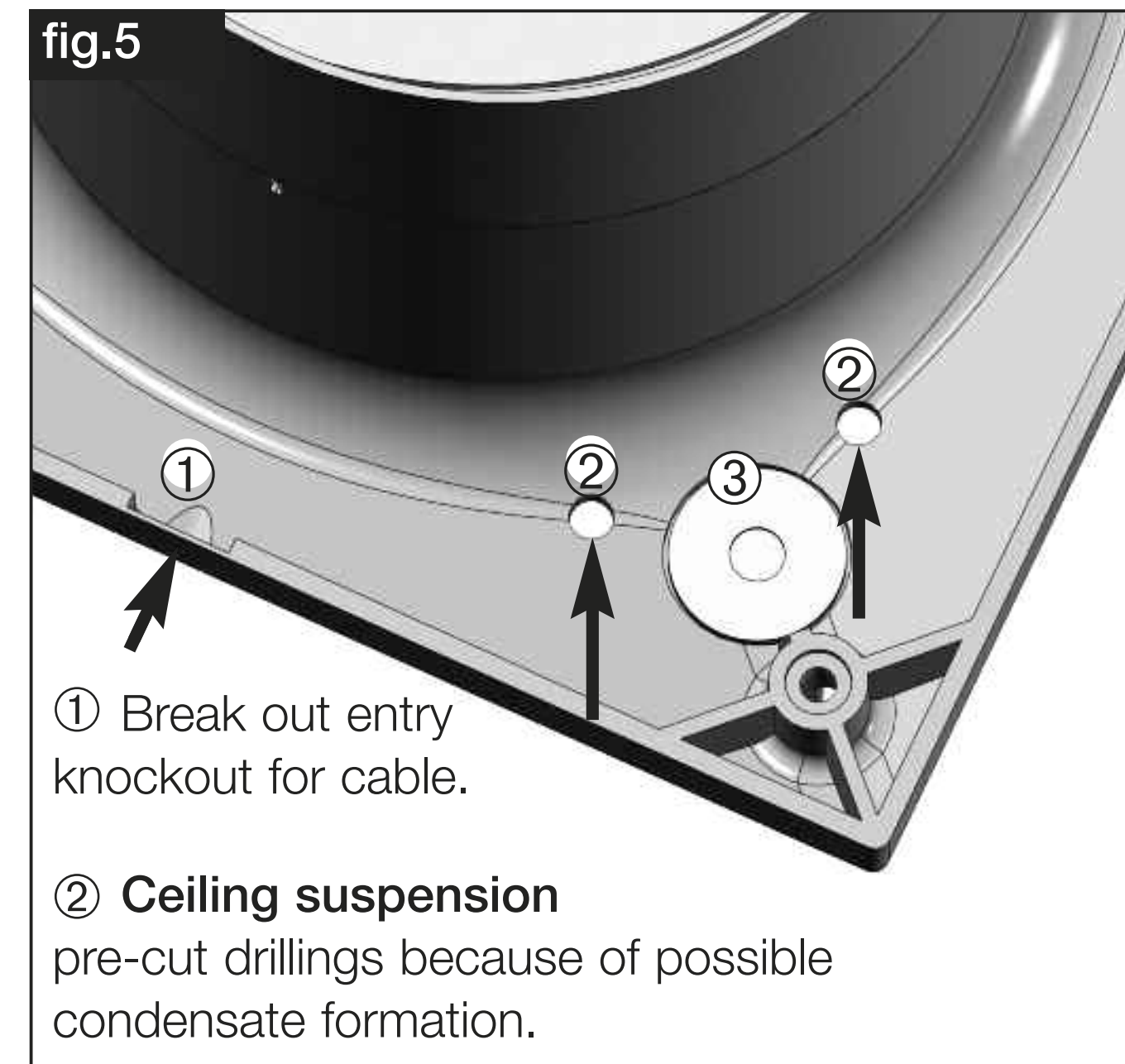
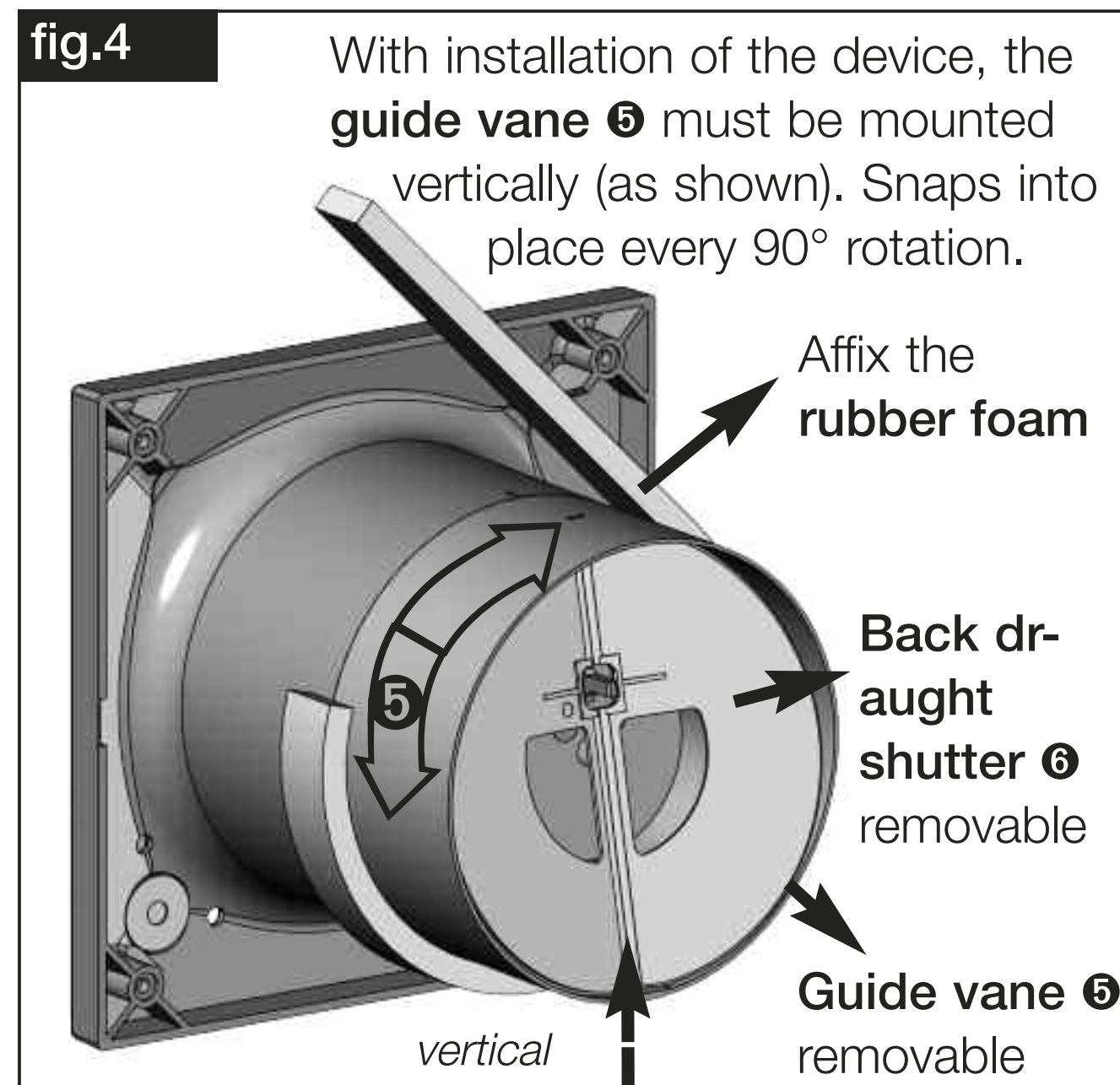
3.2 Drill holes

Set casing against the wall, mark the holes and drill. Fasten with at least 2 screws and plugs.

ATTENTION

For surface installation, the casing is provided with a side entry knockout (Fig.5, Pos.1) for the cable!
The mains supply cable is to be kept in such a way that no ingress of moisture is made possible along the cable.

3.3 Wall or ceiling installation



3.4 Installation of extraction duct

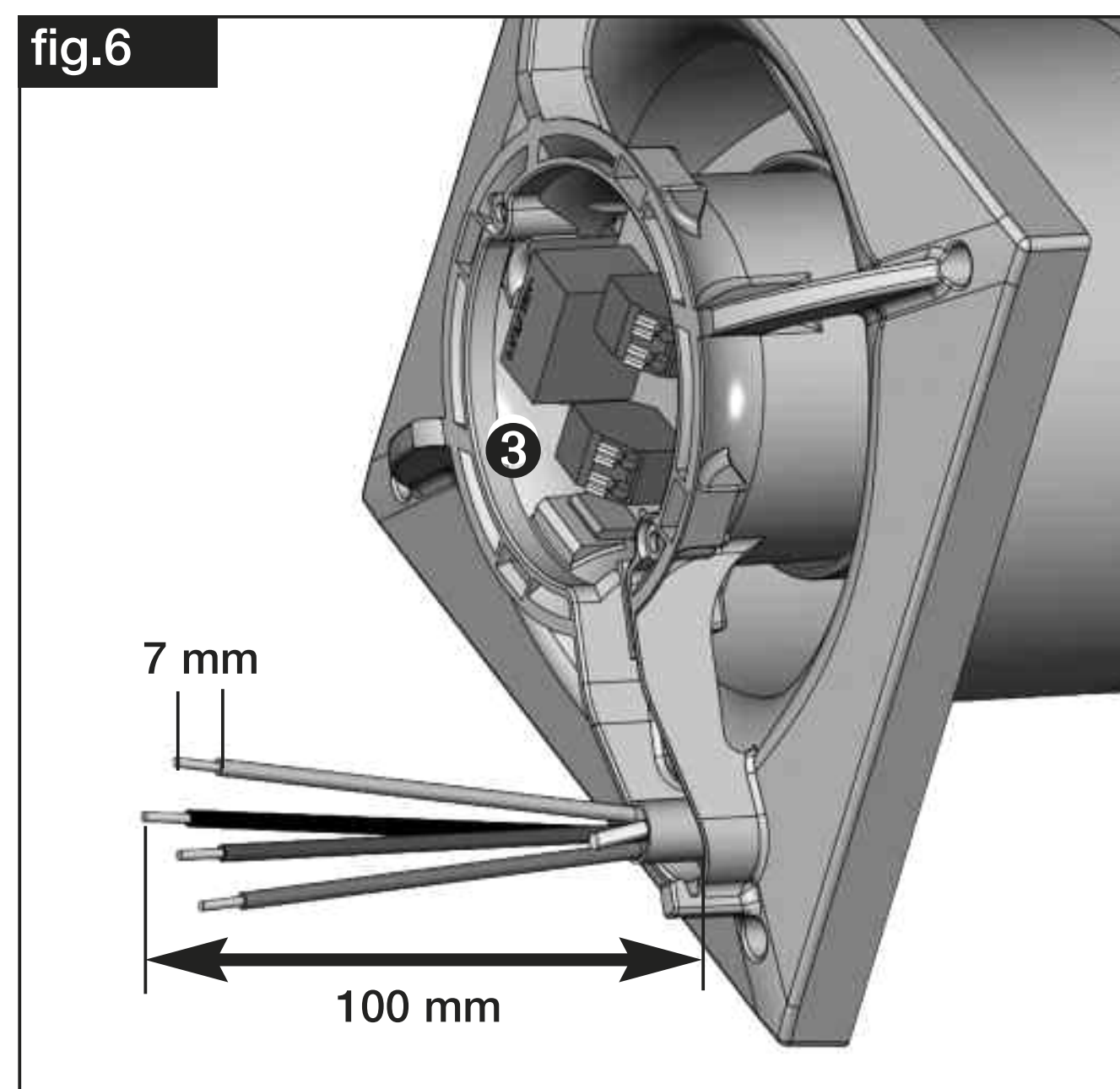
Extraction ducts, which are installed in cold zones, must be isolated. With heavily occurring condensate, a “water pocket” in the duct system must be integrated in an appropriate way.

NOTE

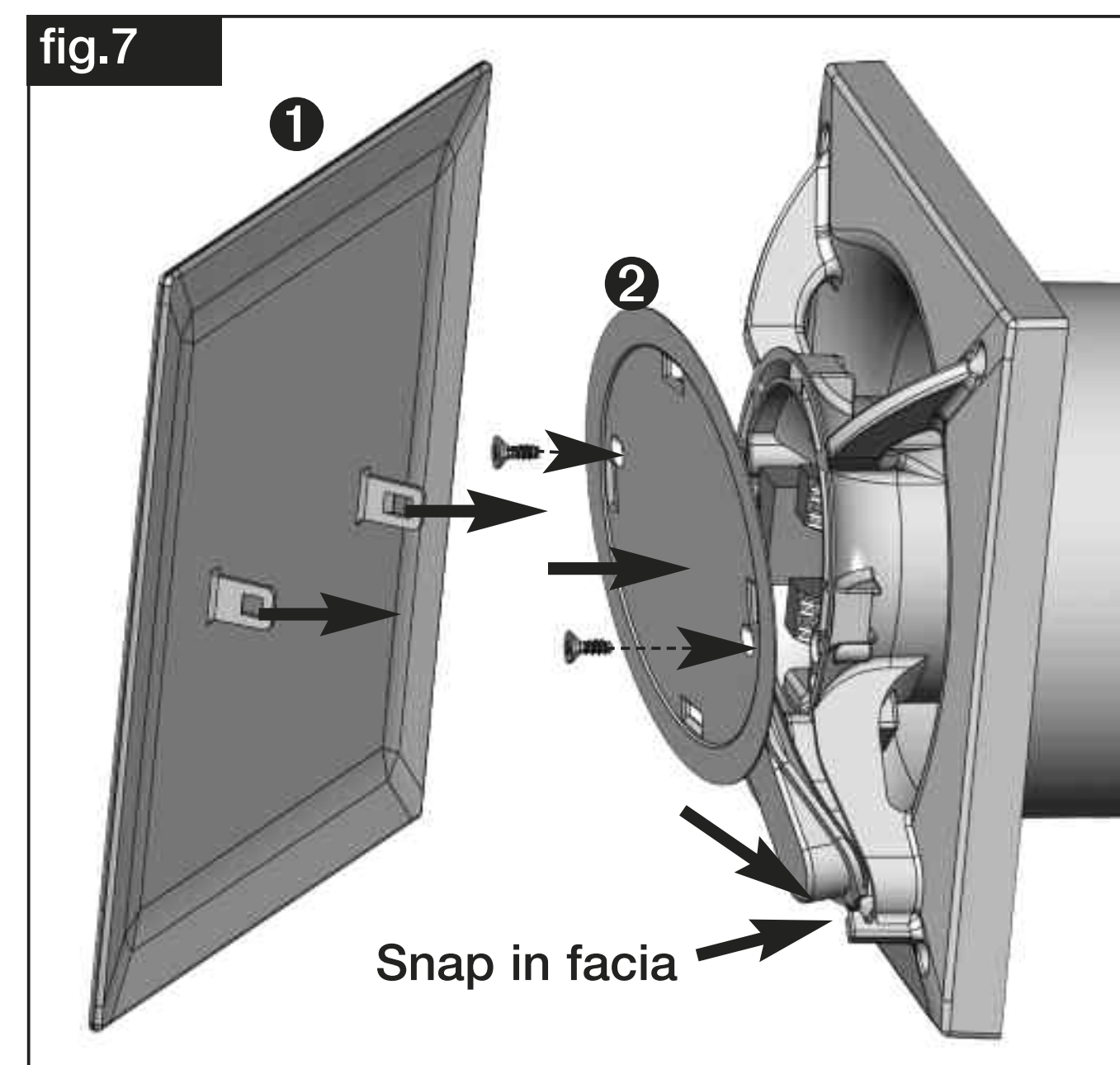
3.5 Connection of the voltage supply

1. A plastic-sheathed cable and /or in a moist room a NYM cable is to be used.
2. Cable exit from the wall at least 180 mm (Fig.3)
3. Puncture cable grommet with a round tool or directly with the supply cable (Fig.5, Pos. 3).
4. Remove cable jacket at least 100 mm in length. Strip insulation 7mm in length (Fig.6).
5. Push cable carefully through cable grommet.
6. If with installed supply cable, the cable grommet does not enclose the plastic-sheathed cable evenly, the grommet must be sealed additionally e.g. with silicone (Fig.6). **Otherwise the IP protection expires.**
7. Run cable in conduit and connect according to wiring diagram (page 9).

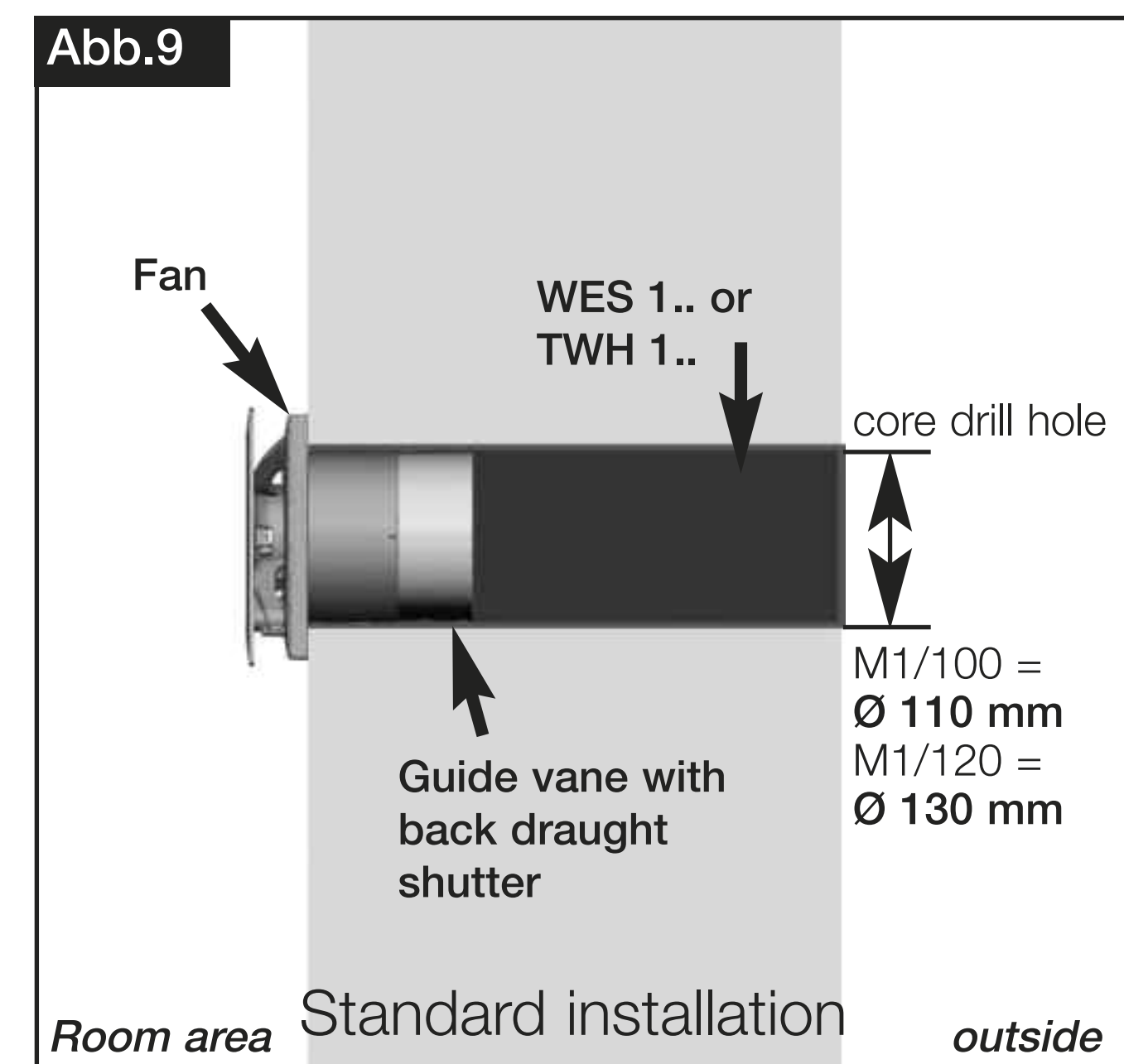
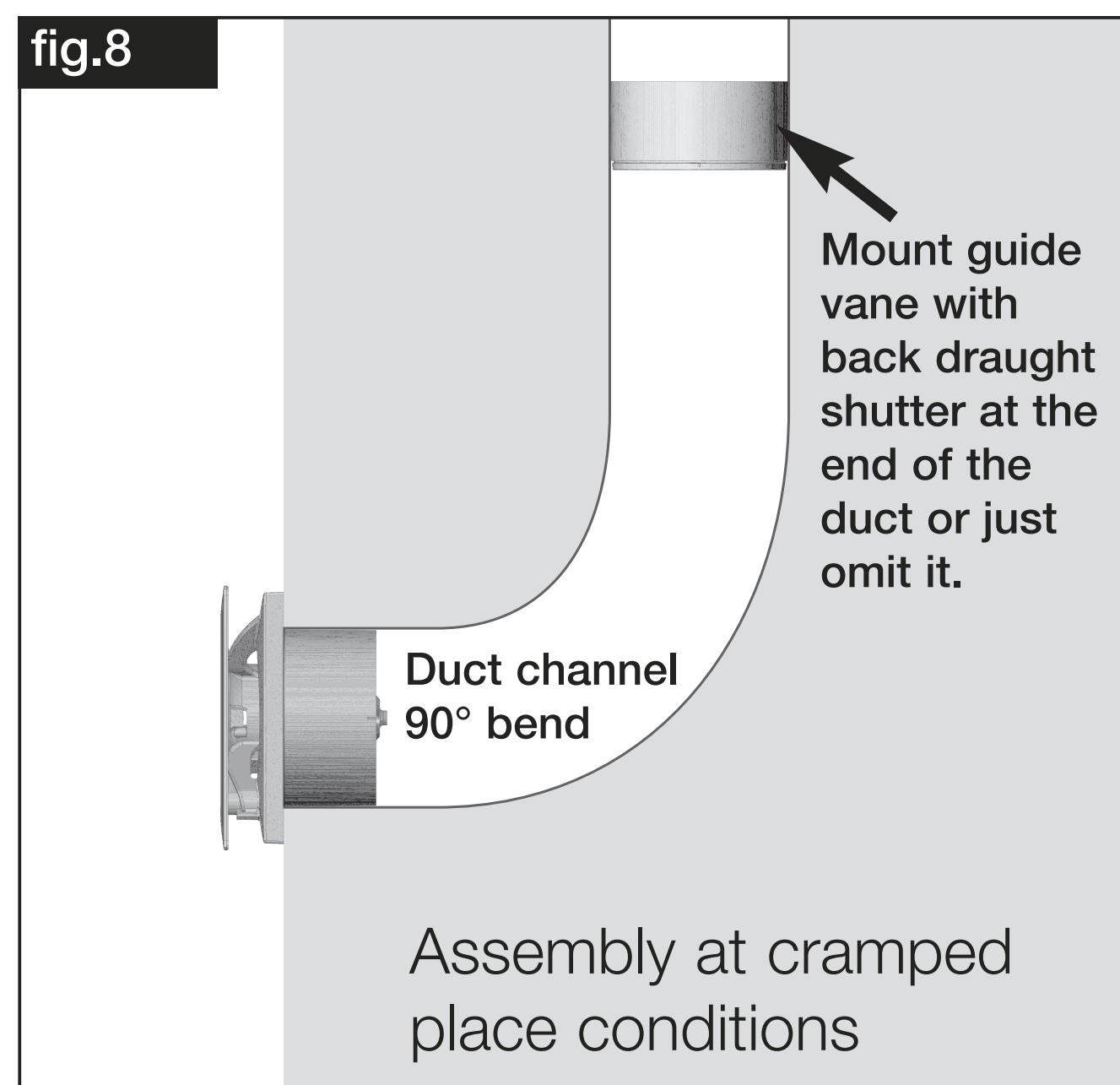
ATTENTION



- Length of single conductor 100 mm
- Length of stripped insulation 7 mm
- Strip plastic-sheathed cable flush with conduit.



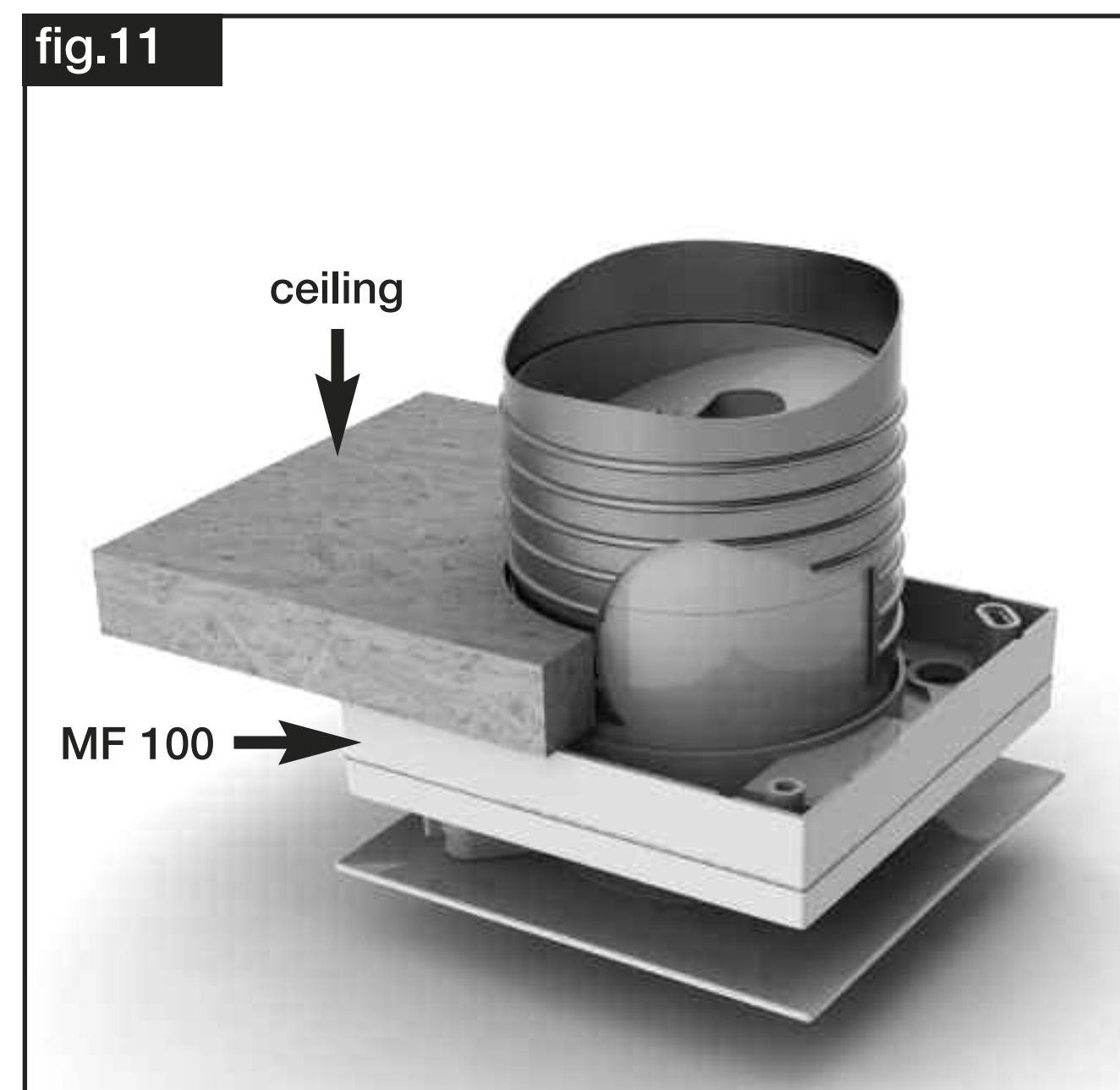
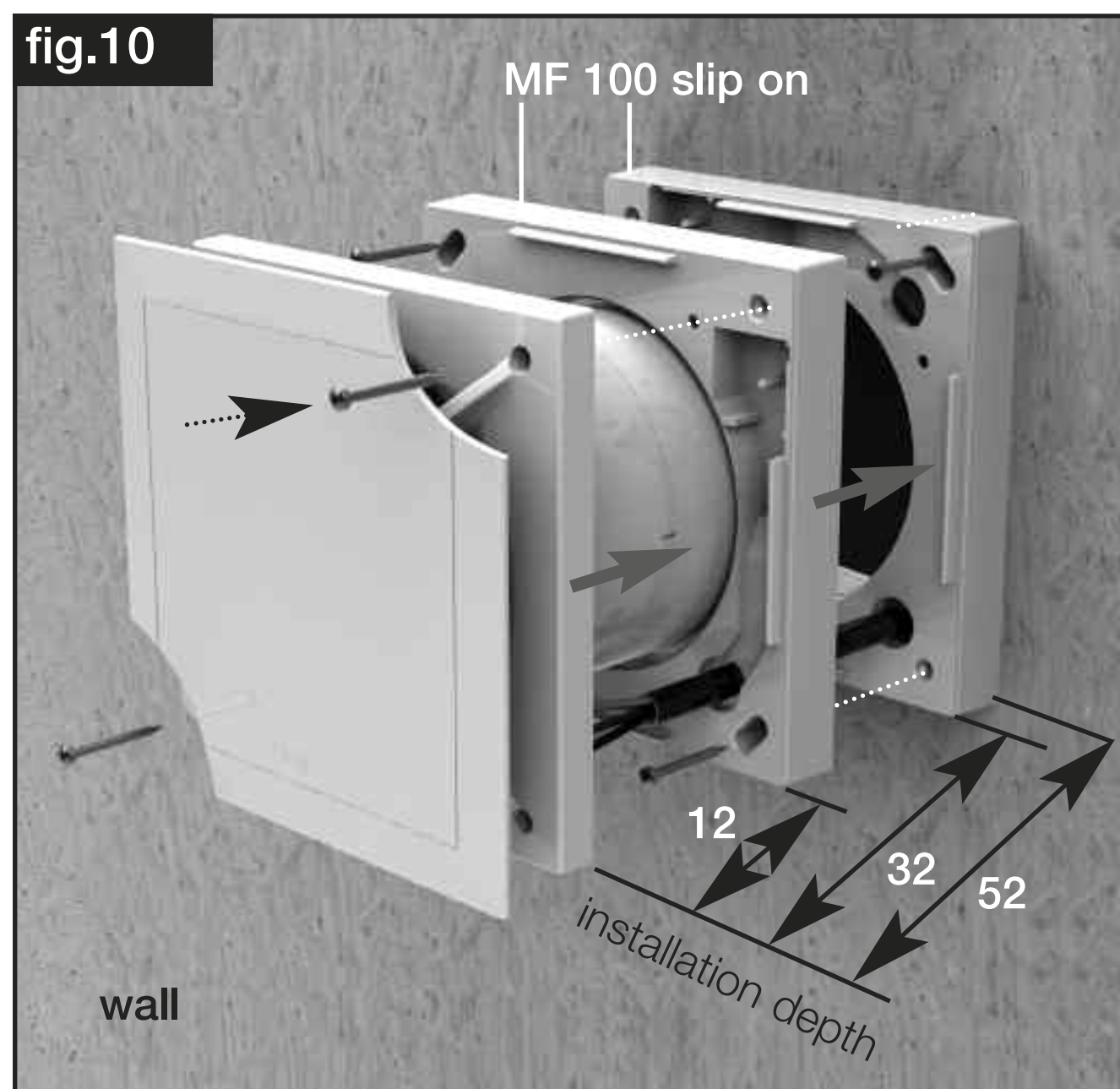
1. Press cover of control board ② on casing and fasten with screws.
2. Snap in fascia. ①



3.6 Mounting flange for MF 100 (accessories)

For ceiling installation, installation in thin walls and narrow ducts. Fit the MF 100 to the wall or ceiling. Secure the fan to the casing with the two enclosed screws (fig. 10/11).

Also adapted for assembling a pull cord switch (accessory).



CHAPTER 4

ELECTRICAL CONNECTION

WARNING ⚠

4.0 Electrical connection

All work must be carried out with the equipment fully isolated from the power supply. The electrical connection are to be carried out in accordance with the relevant wiring diagram and are only to be done by a certified electrician. The M1/100 F/120 F may not be operate with transformer controllers.

All relevant safety regulation, national standards and norms are to be adhered to.

4.1 Electronic control board

The electronic control board allows the operation with 2 speeds. The control board is fitted into a splash-proof casing.

- **M1/100 F** with automatic humidity control
- **M1/120 F** with automatic humidity control

EMV regulation/norm

Important indication for the electromagnetic compatibility

Interference resistance according to DIN EN 55014-2 depending upon impulse form and energy rate of 1000 V to 4000 V. With operation with fluorescent tubes, switch power supplies, electronically regulated halogen bulbs etc. these values can be exceeded.

In this case additional suppression shielding activities (not provided by Helios) are necessary (L -, C or RC elements, protection diodes, resistors).

IMPORTANT NOTE 📖

CHAPTER 5

CLEANING AND MAINTENANCE

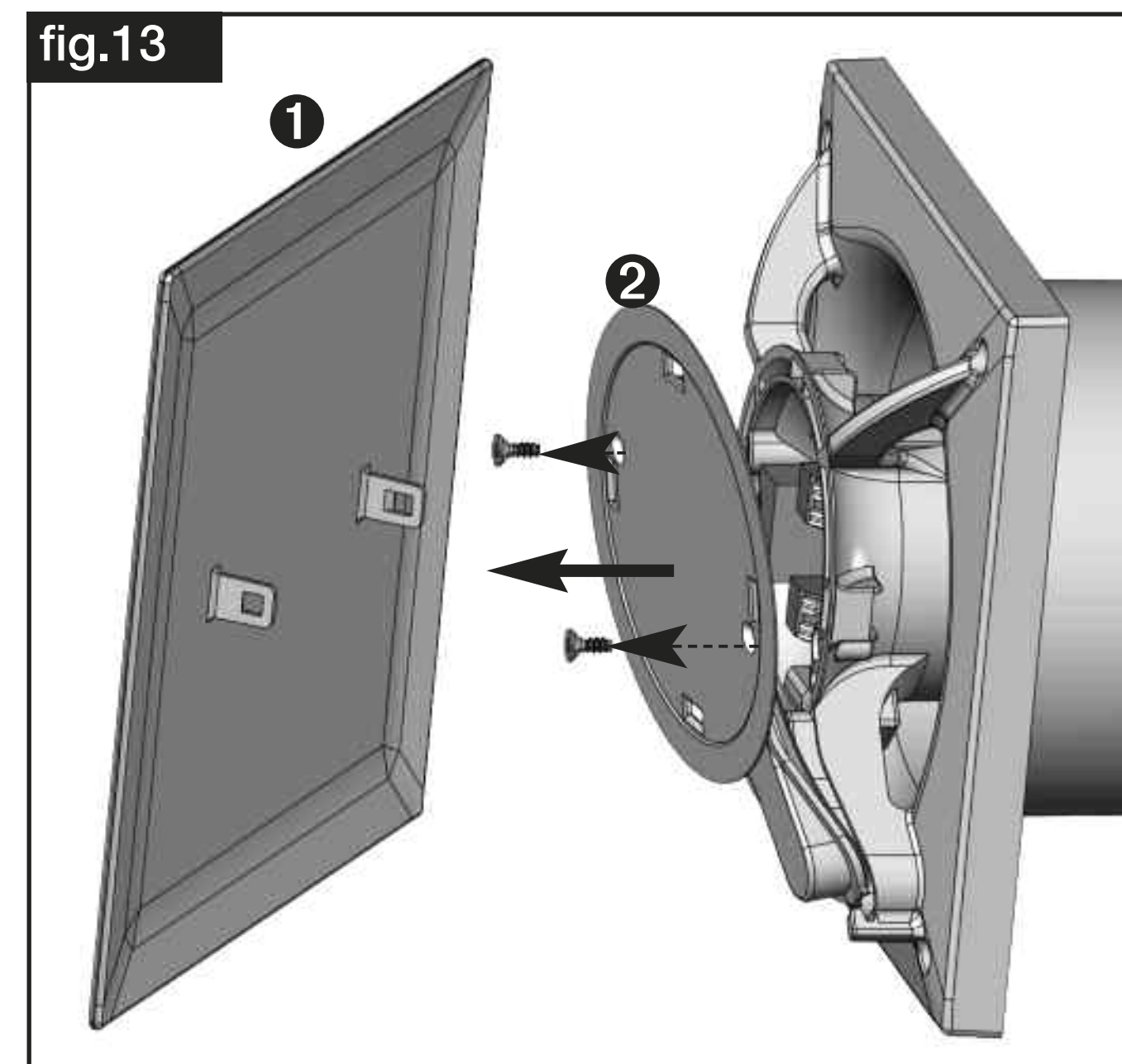
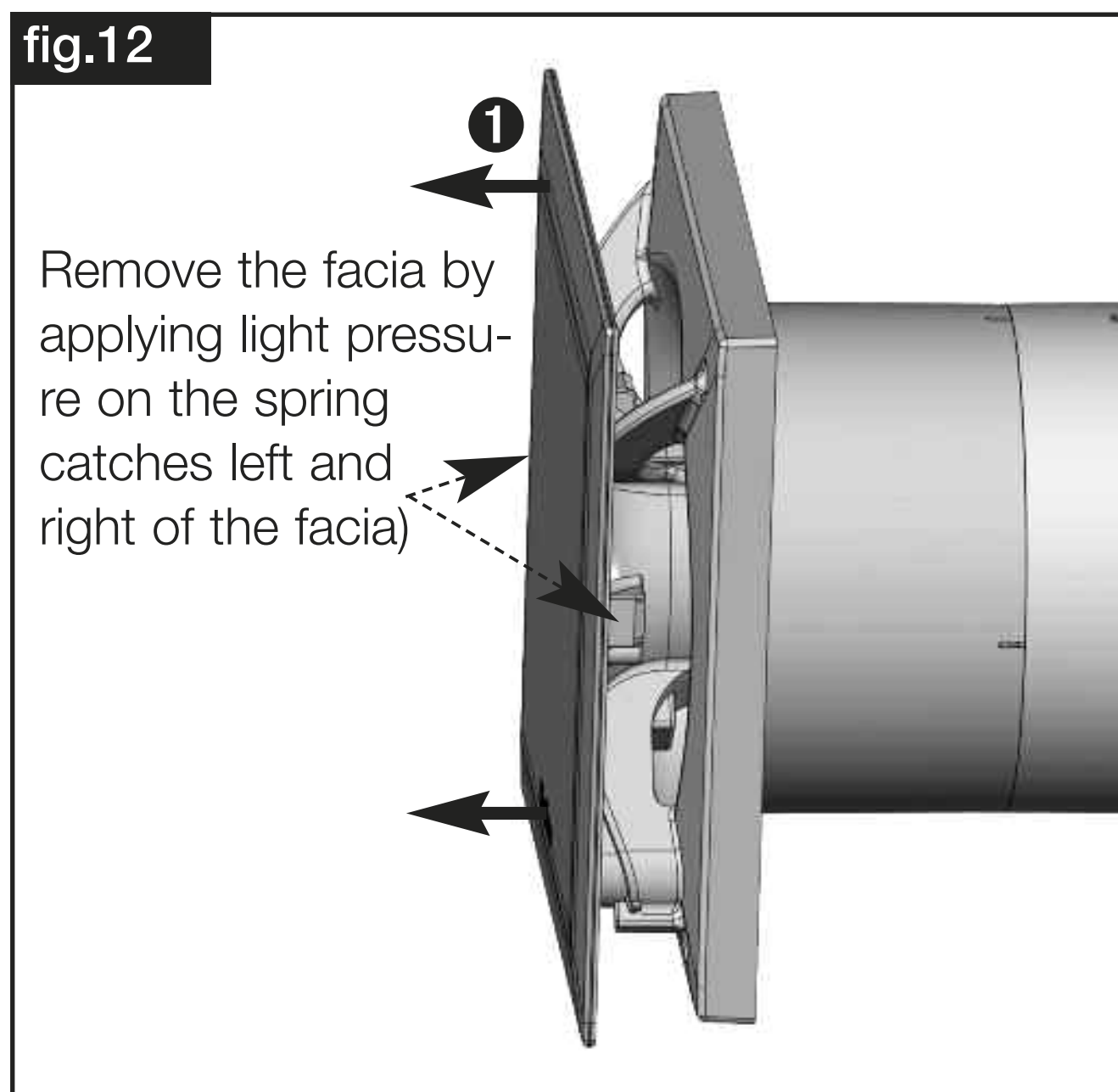
5.0 Cleaning and maintenance

- Before cleaning, ensure that the fan is isolated from the power supply.
- Prevent unintentional restart !
- Clean device only with a damp cloth.
- The device is maintenance-free.

5.1 Dismantling of facia

Procedure:

1. Isolate the device from the power supply and prevent unintentional restart!
2. Remove the facia ❶ by applying light pressure on the spring catches left and right of the facia (Fig.12).
3. Unfasten the screws of the control board cover ❷ (Fig.13).



CHAPTER 6

INDICATIONS – DISTURBANCE ORIGINS

6.0 Indications – Disturbance origins

- If the thermal protection trips this could be the result of dirt build-up, a hard running impeller and/or bearings. Too high winding temperature through insufficient motor cooling, or too high air flow temperature could be the cause of disturbance.
- Abnormal noises can mean worn out bearings.
- Vibrations can originate from an unbalanced or dirty impeller or due to the installation.
- Extreme performance reduction can occur if the fan must work against too high resistance of the ventilation system or if there is a lack of sufficient supply air (causing also higher sound level).

CHAPTER 7

FUNCTION M1/100 F/120 F

WARNING

Electrical connections:

- Terminal N / L:

The supply voltage of 230 V is connected permanently to terminal N/L.

- Terminal 1:

Input with optional two functions!

Switching on terminal 1 offers two options depending on the setting of dip switch S1-6, delayed start and overrun or deactivation of the humidity control - see sections 2. and 3. below.

Terminal 2:

Switching on terminal 2 is to switch the second speed on/off manually (see wiring diagram SS-919). This action does not affect the two options offered by terminal 1 and/or the humidity control, i.e. during activated humidity control and/or time function (terminal 1), the terminal 2 is inactive.

1. Functional description of the automatic humidity control:

With normal increase of the humidity the fan starts automatically when the set point is reached. With fast increase of the humidity the ventilation starts before the actual selected set point of 60-70-80-90 % relative humidity (factory setting: 70 % relative humidity). The fan switches off automatically when the humidity is reduced to 10 % below the set point. If the relative humidity in the room decreases little within certain time, the fan changes into a defined interval operation. The fan switches off automatically when the humidity is reduced to 10 % below the set point. Possible reasons that the relative humidity in the room decreases little within certain time may be high humidity ambient air (summertime) or intense humidity supply in the room over several hours.

2. Operation mode N = Terminal 1, DIP-switch S1- 6 set to off (factory setting)

Delayed start and adjustable overrun. Switched on with delayed start or push-button switch (operation with push-button switch without start delay).

Delayed start (0 or 45 sec.)

When switching on the terminal 1, the fan starts after the set delayed start time. Thus a room can be entered and left within a short time without starting the fan (e.g.via double-pole light switch) Delayed start factory setting approx. 45 sec.

DIP-switch S1.1 wiring diagram SS-941: No 1. : Off = deactivated, ON = 45 sec.

Operation with short power on

The fan can be run for the selected run on time using a short power on from a switch or a push button switch providing a short pulse of current (minimum pulse 0.5 seconds). The DIP-switch setting SI-1 must be set to off and a chosen run on time -. DIP-switch setting SI-2 & 3 (see wiring diagram SS-941) After switching off terminal 1, the fan keeps running and switches off after the run on time automatically. Factory setting approx. 6 min. This operation has priority over the humidity control.

or

3. Operation mode Deactivation of humidity control = Terminal 1, DIP 6 set to on. Switched with push-button switch

With a short power on from a switch or a push button switch providing a short pulse of current (minimum pulse 0.5 seconds) the humidity control is switched off for 1 hour. All memory states are deleted. When the switch is operated within the 1 hour the 1 hour deactivation period restarts. The deactivation has no influence on the manual operation (terminal 1).

4. Changing the factory setting

The DIP-switch settings shown on wiring diagram SS-941 can be changed to achieve the required operation. Isolate the unit from the mains electric supply!

5. Room lighting

In connection with the room lighting (terminal 1 or 2), a double-pole switch must be used.

6. Wiring in parallel

IMPORTANT: Wiring in parallel of several fans is not permitted.

7. Jumper settings wiring diagram SS-940

Depending on the jumper setting, the fan runs with 75 or 90 m³/h (Type M1/100 F) or 150 or 170 m³/h (Type M1/120 F) .

Jumper 1

Position A – Factory setting

Kl. 1 = 75 or 150 m³/h, activated via time function or determined by humidity
Kl. 2 = 90 or 170 m³/h, manually activated without additional options

Position B

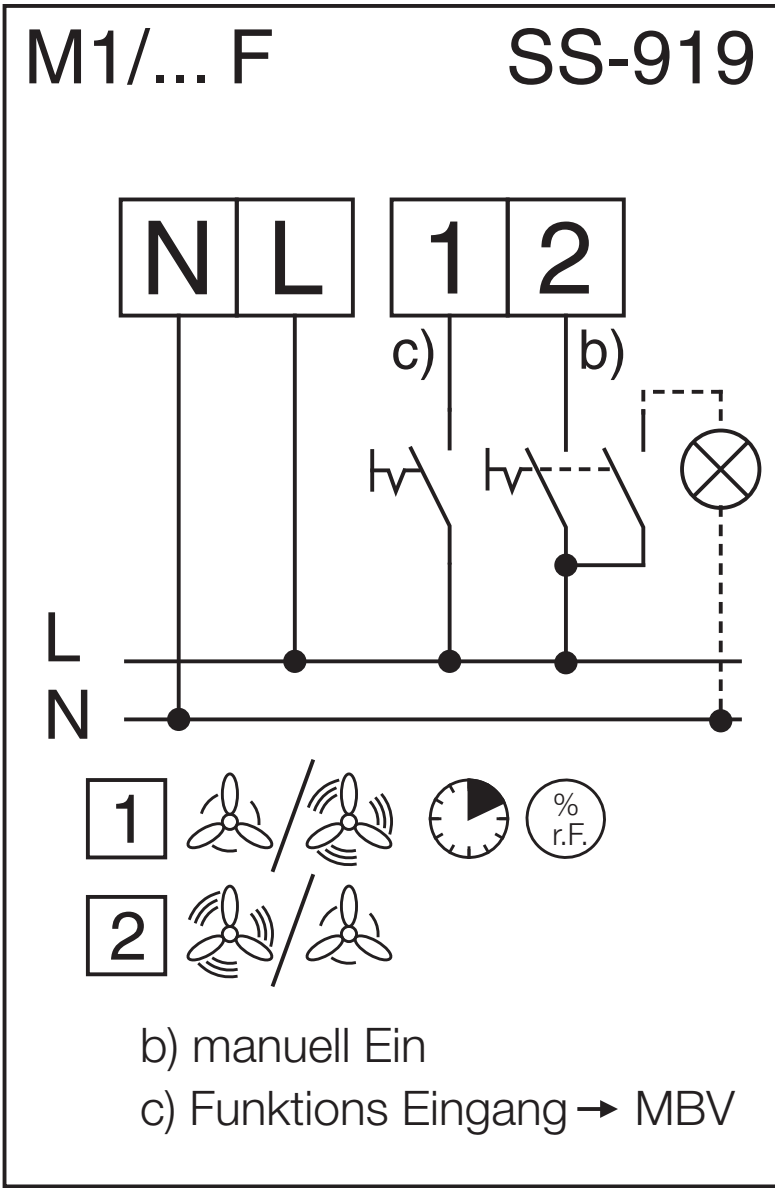
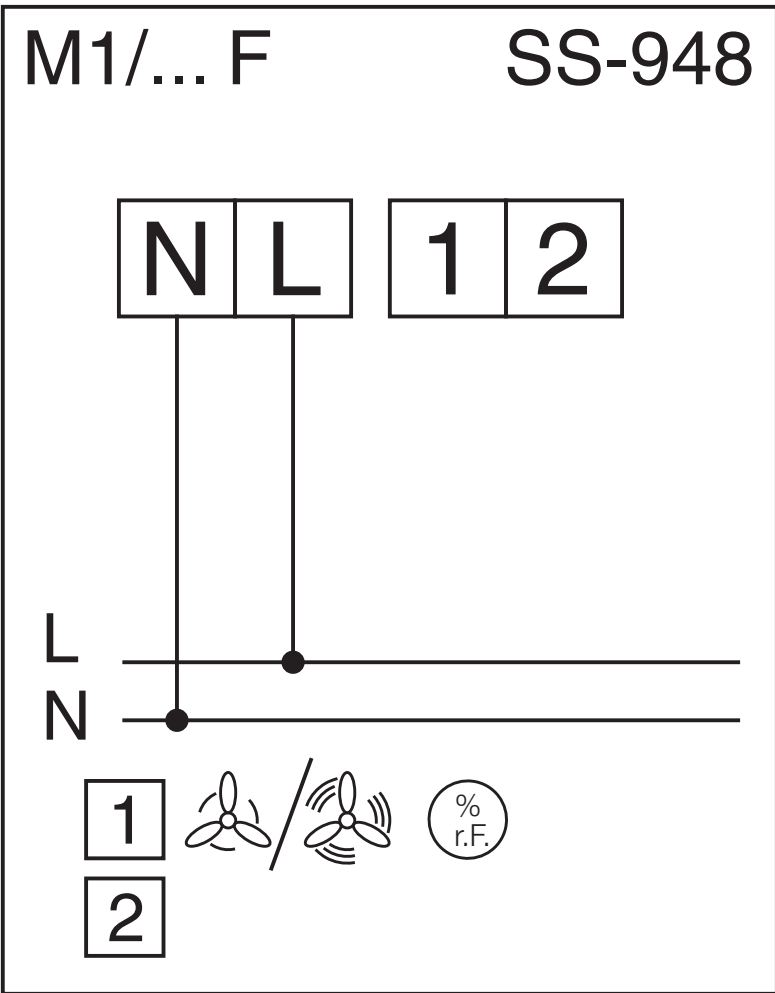
Kl.1 = 90 or 170 m³/h, activated via time function or determined by humidity
Kl.2 = 75 or 150 m³/h, manually activated without additional options

8. Test mode and calibration at initial start-up

When applying the supply voltage the fan is in the test mode for 1 minute (Requirement: Factory setting of DIP-switch, see wiring diagram SS-941). In this case the delayed start and the overrun function is deactivated within the first minute, or for a switching cycle. The humidity sensor needs approx. 1 hour to calibrate itself at initial start-up (switch on mains supply). Within the calibration time the fan may switch itself on, dependent on the environmental conditions.

WIRING DIAGRAMM
OVERVIEW
M1/100 F/120 F

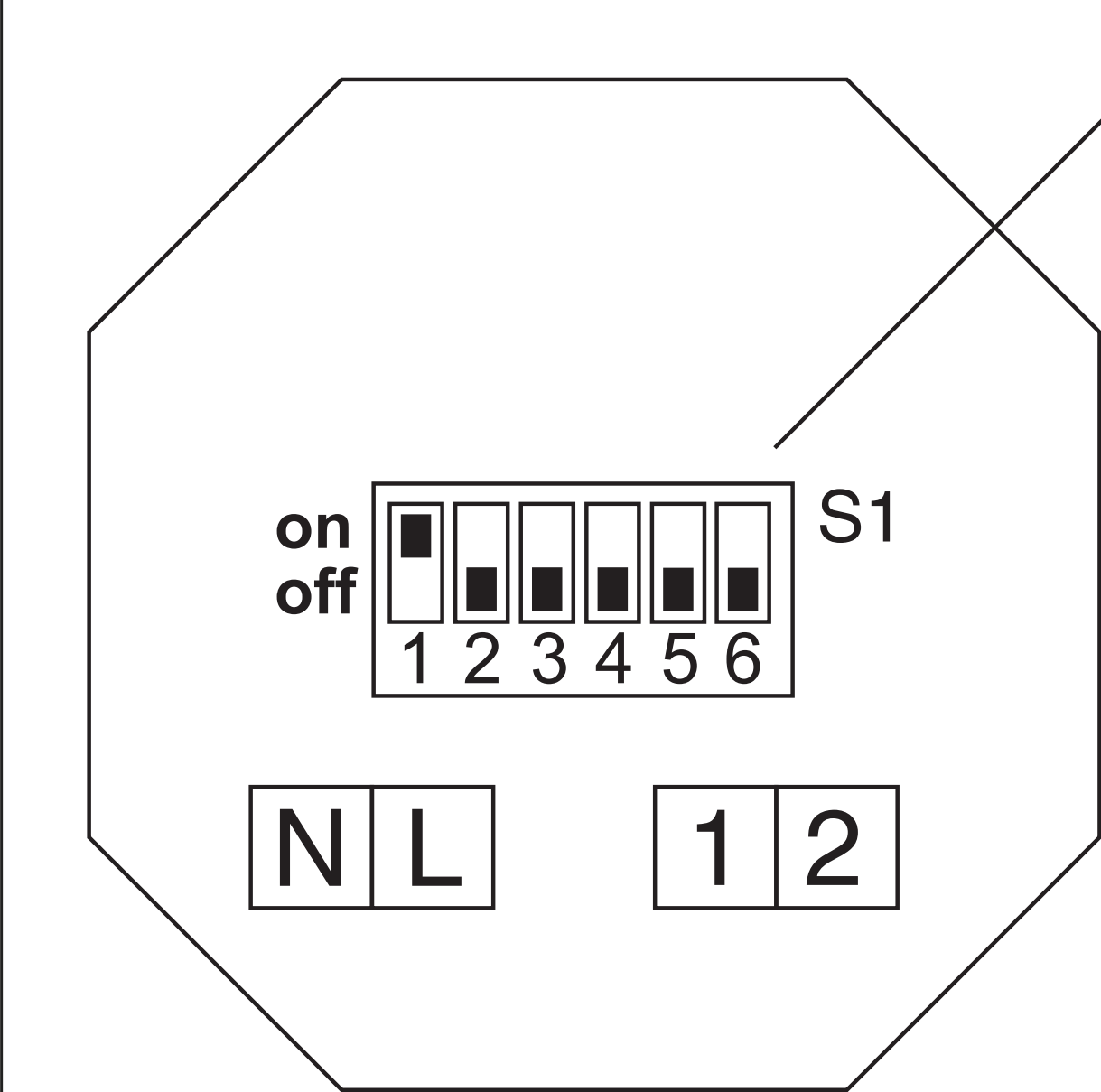
Connection client, standard
dehumidification operation



Dehumidification operation
and additional options

**Inverse voltage / room
lighting / glow lamp**
Due to electronics a “low-ener-
gy” inverse voltage rests at ter-
minal 1 (type N, NC, F). In order
to avoid a permanent glow by
use of a glow lamp in a switch,
a capacitor (X2 capacitor with
0,33 µF/250VAC with strand /
not provided by Helios) can be
used in parallel with glow lamp.
In order not to affect the elec-
tronics negatively, room lighting
are to be connected generally
via two-pole switch.

DIP-switch adjustment



		DIP-Schalter / Switch / Commutateur					
		1	2	3	4	5	6
	Einschaltverzögerung	0 sec	off	—	—	—	—
		45 sec	on	—	—	—	—
	Nachlauf / Einschaltzeit	6 min	—	off	off	—	—
		12 min	—	off	on	—	—
		18 min	—	on	off	—	—
		24 min	—	on	on	—	—
	relative Feuchtigkeit in % Schaltschwelle, Ein / Aus	70/60	—	—	—	off	off
		90/80	—	—	—	off	on
		80/70	—	—	—	on	off
		60/50	—	—	—	on	on
	Funktion: Zeit oder Feuchtesteuerung deaktivieren		—	—	—	—	off
			—	—	—	—	on

SS-941