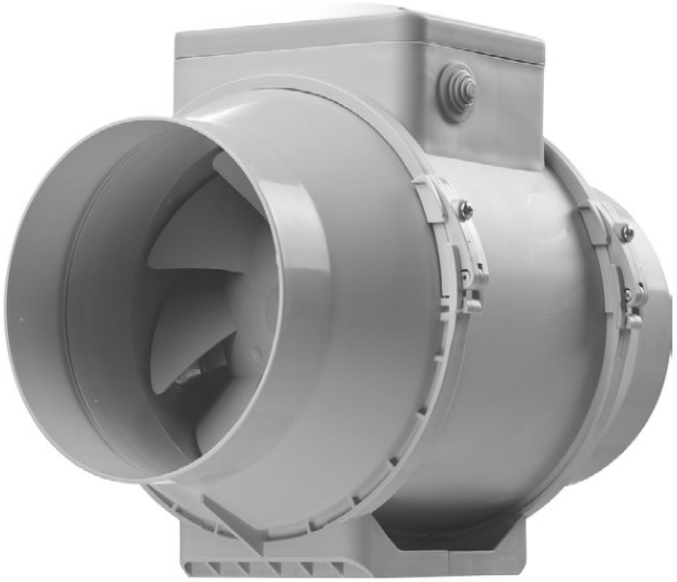
# Aventa In-line Plus

INLINE MIXED-FLOW FANS

User manual



AIRFLOW

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This manual provides the main operating instructions for the installation, maintenance and operation of the Aventa In-line Plus.

The manual covers the unit's intended purpose, technical characteristics, operating principles, construction and installation, including all modifications of the product.

Technical and maintenance personnel must have both theoretical knowledge and practical training in ventilation systems. They should be capable of carrying out their work in accordance with workplace safety requirements and the construction regulations and standards applicable in the country of use.

Persons, including children, whose physical, sensory or mental capabilities are reduced, or who lack the necessary experience and knowledge, must not use the unit unless a person responsible for their safety provides supervision or instructions on its use.

Children must be supervised to prevent them from playing with the unit.

Children aged 8 years and over, and persons with reduced physical, sensory or mental capabilities or insufficient experience and knowledge, may use the appliance provided they are supervised or have received instructions on its safe use and understand the associated hazards.

Children must not carry out cleaning or user maintenance without supervision. The appliance must not be used as a toy.

The mains connection must incorporate a disconnecting device within the fixed wiring, installed in accordance with the applicable electrical wiring rules. The device must provide contact separation on every pole sufficient to achieve complete disconnection under overvoltage category III conditions.

A damaged supply cord must be replaced by the manufacturer, its service agent or a person with equivalent qualifications to prevent a safety hazard.

CAUTION: To prevent a hazard caused by accidental resetting of the thermal cut-out, do not supply the unit through an external switching device, such as a timer. It must also not be connected to a supply circuit that the utility regularly switches on and off.

Switch off the unit at the mains supply before removing the guard.

All work described in this manual must be undertaken exclusively by qualified personnel with appropriate training in the installation, electrical connection and maintenance of ventilation equipment.

Do not undertake installation, mains connection or maintenance yourself. These tasks require specialist knowledge and cannot be performed safely without it.

Disconnect the electrical supply before carrying out any work on the unit.

Installation and operation must comply with this manual and all applicable local and national construction, electrical and technical regulations and standards.

The unit must be disconnected from its power supply before any connection, servicing, maintenance or repair work begins.

Only a qualified electrician authorised to work on electrical installations up to 1000 V may connect the unit to the mains. The electrician must read this manual carefully before making the connection.

Before installation, inspect the impeller, casing and grille for visible damage. Check that no foreign objects remain inside the casing that could damage the impeller blades.

Do not compress the casing during mounting. Distorting the casing may cause the motor to jam and produce excessive noise.

Use the unit only as intended. Unauthorised modifications are prohibited.

The air passing through the unit must be free from dust, other solid contaminants, sticky substances and fibrous materials.

Take appropriate precautions to prevent gases from being drawn back into the room through the open flues of appliances burning gas or other fuels.

Backflow of combustion gases may compromise the safe operation of fuel-burning appliances, including those located in other rooms. These gases can cause carbon monoxide poisoning. Once the unit has been installed, a competent person should test the operation of flued gas appliances to confirm that combustion gases are not flowing back into the premises.

Do not operate the unit in hazardous or explosive atmospheres containing substances such as spirits, petrol or insecticides.

Keep the intake and extract vents open and unobstructed to maintain efficient airflow.

Do not sit on the unit or place objects on it.

The information provided in this manual was accurate when the document was prepared. The Company reserves the right to update the technical characteristics, design or configuration of its products at any time to incorporate technological developments.

Do not touch the unit with wet or damp hands, or while barefoot.

Installation and use must not begin until all construction and finishing work in the room concerned has been completed.

READ THE RELEVANT USER MANUALS BEFORE INSTALLING ANY ADDITIONAL EXTERNAL DEVICES.

AT THE END OF ITS SERVICE LIFE, THE PRODUCT MUST BE COLLECTED SEPARATELY FOR DISPOSAL.

DO NOT DISPOSE OF THE UNIT WITH UNSORTED HOUSEHOLD WASTE.

## WHAT'S IN THE BOX

| | |
|---|---|
| Fan | — 1 pc. |
| Screws and dowels | — 4 pcs. |
| Plastic screwdriver (for models with a timer) | — 1 pc. |
| User's manual | — 1 pc. |
| Packing box | — 1 pc. |

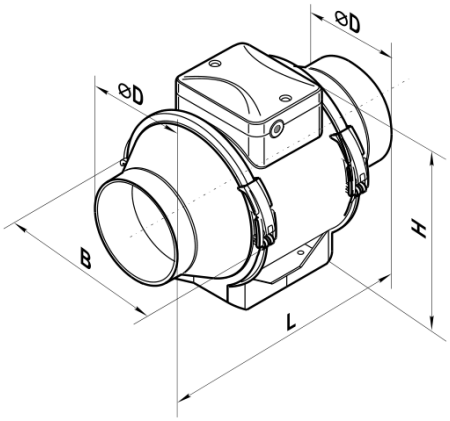
## BRIEF DESCRIPTION

The product described herein is a mixed-flow inline fan for supply or extract ventilation of premises.

The fan is designed for connection to ø 100 125 and 150 mm air ducts.

The unit is equipped with a two-speed motor.

| | Ø D | B | H | L |
|---|---|---|---|---|
| Aventa In-line Plus 100 / 100 T | 97 | 196 | 226 | 303 |
| Aventa In-line Plus 125 / 125 T | 123 | 196 | 226 | 259 |
| Aventa In-line Plus 150 / 150 T | 148 | 220 | 247 | 289 |



## OPERATION GUIDELINES

The fan is rated for connection to single-phase AC 220-240 V/50 Hz or 220 V/60 Hz, 110 V/60 Hz power mains.

The unit is rated for continuous operation.

The arrow on the fan casing must match the air direction in the system.

Ingress protection rating against access to hazardous parts and water ingress is IPX4.

The unit is rated as a Class II electrical appliance.

The fan is rated for operation at the ambient air temperature from +1 °C up to +40 °C.

| Power supply [V/Hz] | Transported air temperature [°C] |
|---|---|
| 220-240/50 | -25...+60 |
| 220/60, 110/60 | -25...+40 |

## MOUNTING

The fan is suitable both for horizontal or vertical mounting on the floor, on the wall or on the ceiling (Fig. 1). The fan can be installed independently or as part of a set with parallel or in-series connection (Fig. 2).

Install minimum 1 m long air duct on the intake spigot side in case of horizontal fan mounting or a hood in case of vertical fan mounting.

The outlet spigot must always be connected to the air duct. The fan mounting sequence is shown in Fig. 3-11 and 14-19.

The fan wiring diagrams are shown in Fig. 12-13. Some fan models are equipped with a plastic limit stop in front of the L1 terminal. Remove the limit stop for connection to the L1 terminal.

Designation:

L1 – minimum speed terminal

L2 – maximum speed terminal

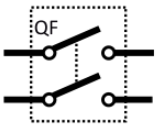
QF – automatic circuit breaker

S – external speed controller

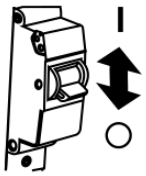
ST – external switch (for example, a light switch)

X – input terminal

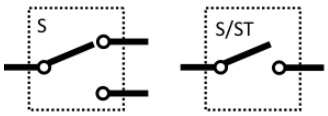
Automatic circuit breaker designation




Automatic circuit breaker



External switch designation




External switch

## CONTROL LOGIC

It is possible to control the fan rotation speed without options by voltage, as well as by thyristor controllers.

The speed controller is purchased separately.

**Warning!**

**When adjusting the voltage, make sure there is no unusual noise or vibration at reduced motor speed.**

**The motor current may exceed the rated current during voltage regulation.**

**The fan is equipped with a thermal switch with no self-reset.**

To reset the thermal relay, switch off the power supply.

Find and eliminate the cause of overheating.

Make sure the motor has cooled down to operating temperature.

Switch on the power supply.

The **Aventa In-line Plus T** fan starts running after the external switch supplies control signal to the LT input terminal (for example, during turning the light on).

After removal of the control signal the fan continues to run within the set time (adjustable with the turn-off delay timer from 2 to 30 minutes).

To adjust the fan turn-off delay time, rotate the control knob T clockwise to increase and counter-clockwise to decrease the turn-off delay time respectively (Fig. 20).

**Warning!** The timer circuit is under mains voltage. Disconnect the fan from power supply prior to any adjustment operations. The fan delivery set includes a specially designed plastic screwdriver for adjustment of the fan parameters. Use exclusively the delivered plastic screwdriver to adjust the turn-off delay time. Do not use a metal screwdriver, knife, etc. for adjustment operations not to damage the circuit board.

## TECHNICAL MAINTENANCE

The fan surfaces must be regularly cleaned (once in 6 months) from dirt and dust (Fig. 24-31). Disconnect the fan from power mains prior to any maintenance operations. To clean the fan, use a soft cloth or a brush wetted in a mild detergent solution. Do not allow water or liquid come into contact with electric components (Fig. 30). Wipe the surfaces dry after cleaning.

## TROUBLESHOOTING

| Problem | Possible reasons | Troubleshooting |
|---|---|---|
| When the unit is connected to power mains, the fan does not rotate and does not respond to any controls. | No power supply. | Make sure the power supply line is connected correctly, otherwise troubleshoot the connection error. |
| | Internal connection fault. | Contact the Seller. |
| Low air flow. | The ventilation system is clogged. | Clean the ventilation system. |
| Increased noise, vibration. | The impeller is clogged. | Clean the impeller. |
| | The fan is not secured well or is not mounted properly. | Troubleshoot the installation error. |
| | The ventilation system is clogged. | Clean the ventilation system. |

## STORAGE AND TRANSPORTATION REGULATIONS

• Store the unit in the manufacturer's original packaging box in a dry closed ventilated premise with temperature range +5...+40 ˚C and relative humidity up to 70 %.

• Storage environment must not contain aggressive vapours and chemical mixtures provoking corrosion, insulation, and sealing deformation.

• Use suitable hoist machinery for handling and storage operations to prevent possible damage to the unit.

• Follow the handling requirements applicable for the particular type of cargo.

• The unit can be carried in the original packaging by any mode of transport provided proper protection against precipitation and mechanical damage. The unit must be transported only in the working position.

• Avoid sharp blows, scratches, or rough handling during loading and unloading.

• Prior to the initial power-up after transportation at low temperatures, allow the unit to warm up at operating temperature for at least 3-4 hours.

# MANUFACTURER'S WARRANTY

The product conforms to EU requirements and standards relating to low-voltage electrical equipment and electromagnetic compatibility.

We hereby declare that the product complies with the provisions of the Electromagnetic Compatibility (EMC) Directive 2014/30/EU and the Low Voltage Directive (LVD) 2014/35/EU of the European Parliament and of the Council, together with Council Directive 93/68/EEC concerning CE marking. This certificate is issued on the basis of tests conducted on samples of the product identified above.

The manufacturer warrants the normal operation of the unit for 24 months from the date of purchase, provided that the user complies with the specified requirements for transportation, storage, installation and operation. If a malfunction attributable to the manufacturer occurs during this period, the user is entitled to have the fault rectified free of charge through warranty repair at the factory.

Warranty repairs cover the work necessary to remedy such faults and restore the unit's intended function during the warranty period. This may involve repairing or replacing the affected components or their constituent parts.

**The warranty repair does not include:**

• routine technical maintenance

• unit installation/dismantling

• unit setup

To obtain warranty repair, the user must submit the unit together with the user's manual bearing the purchase-date stamp and documentation confirming payment for the purchase. The model of the unit must match the model specified in the user's manual. Contact the seller to arrange warranty service.

**The manufacturer's warranty does not apply to the following cases:**

• User's failure to submit the unit with the entire delivery package as stated in the user's manual including submission with missing component parts previously dismounted by the user.

• Mismatch of the unit model and the brand name with the information stated on the unit packaging and in the user's manual.

• User's failure to ensure timely technical maintenance of the unit.

• Damage to the unit casing and internal components caused by the user.

• Redesign or engineering changes to the unit.

• Replacement and use of any assemblies, parts and components not approved by the manufacturer.

• Unit misuse.

• Violation of the unit installation regulations by the user.

• Violation of the unit control regulations by the user.

• Unit connection to power mains with a voltage different from the one stated in the user's manual.

• Unit breakdown due to voltage surges in power mains.

• Discretionary repair of the unit by the user.

• Unit repair by any persons without the manufacturer's authorization.

• Expiration of the unit warranty period.

• Violation of the unit transportation regulations by the user.

• Violation of the unit storage regulations by the user.

• Wrongful actions against the unit committed by third parties.

• Unit breakdown due to circumstances of insuperable force (fire, flood, earthquake, war, hostilities of any kind, blockades).

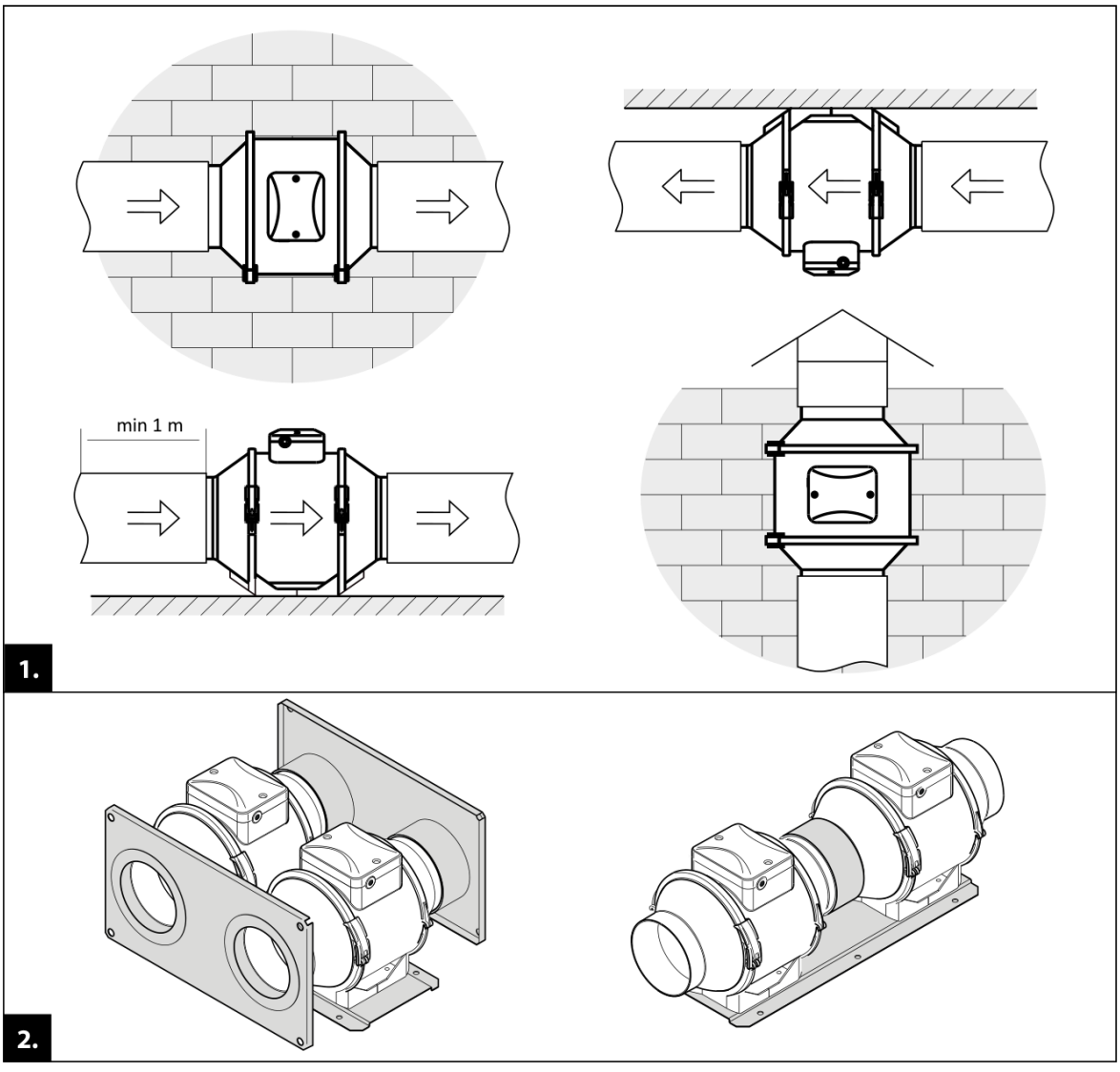
• Missing seals if provided by the user's manual.

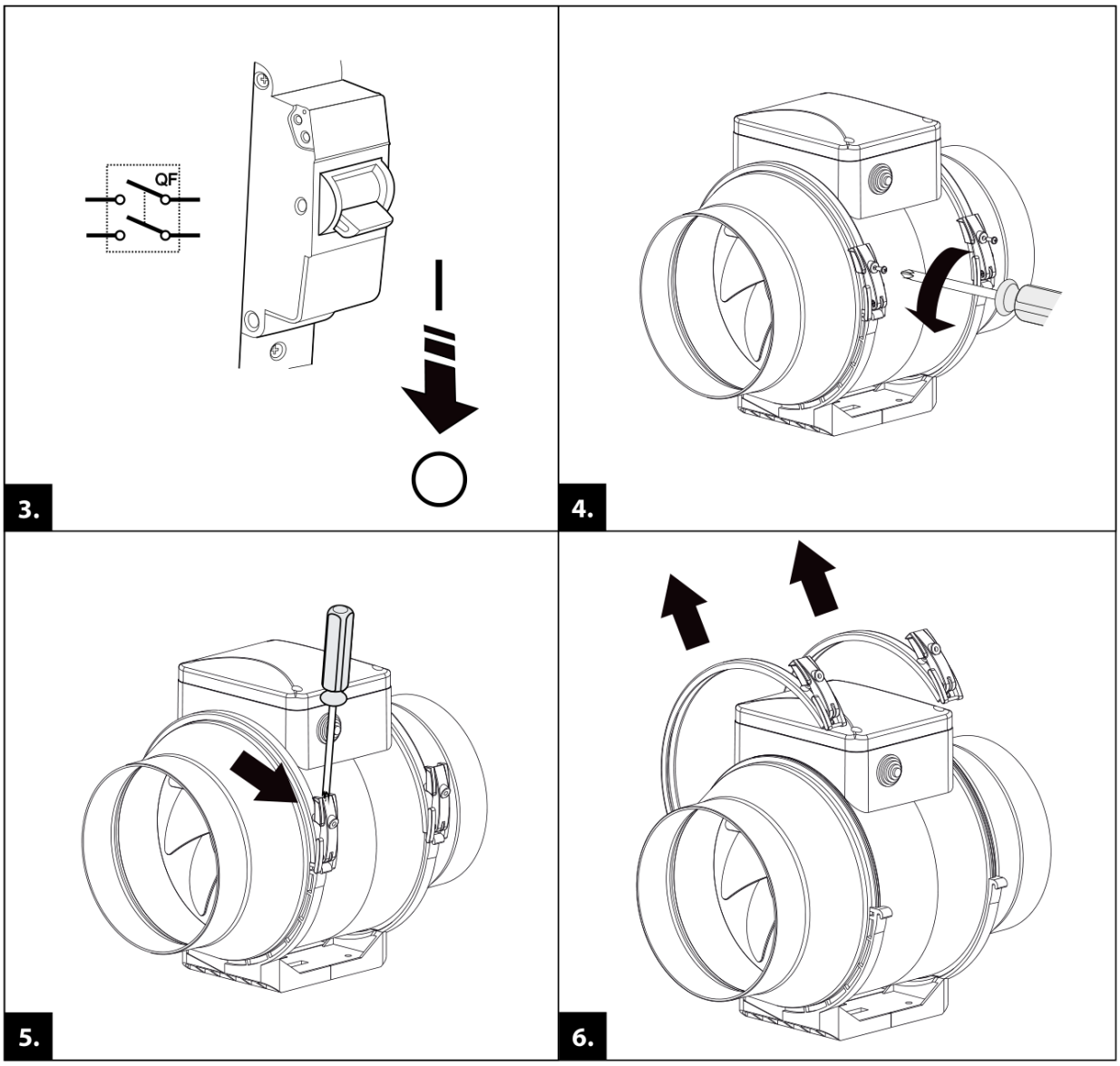
• Failure to submit the user's manual with the unit purchase date stamp.

• Missing payment paperwork certifying the unit purchase.

FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT

USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP

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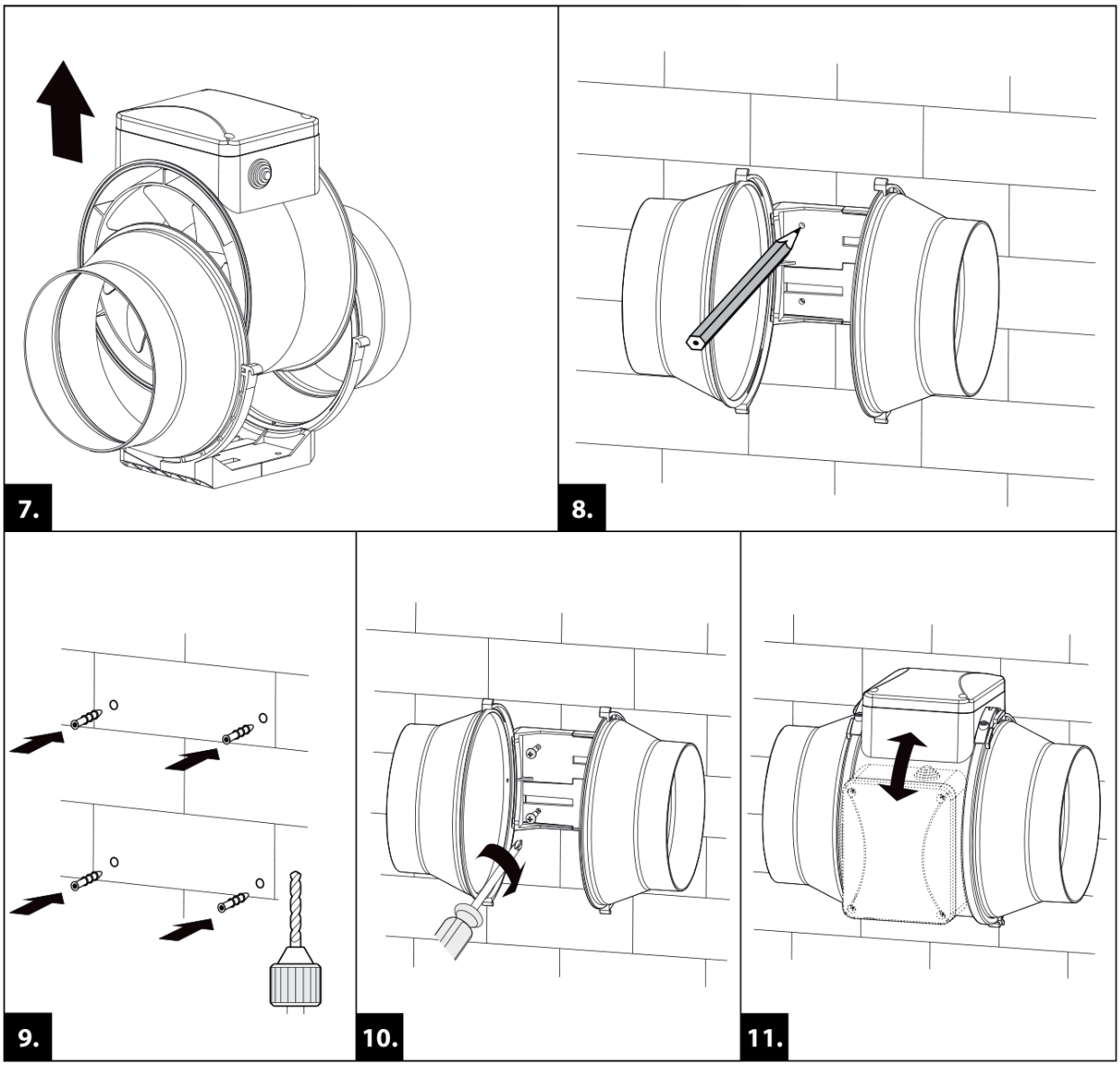
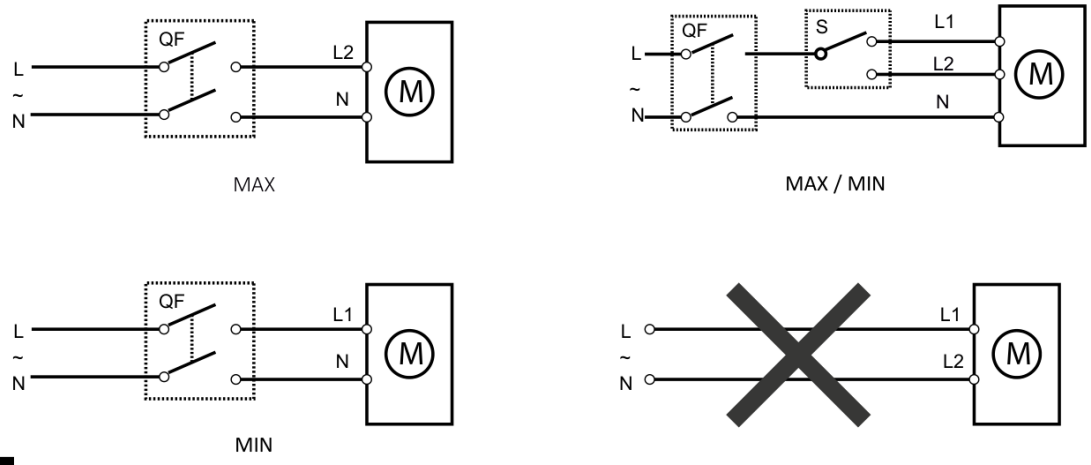



**Aventa In-line Plus**

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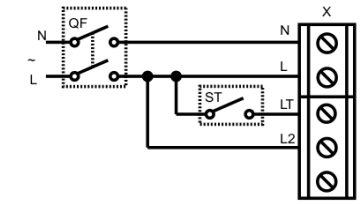
## Aventa In-line Plus T

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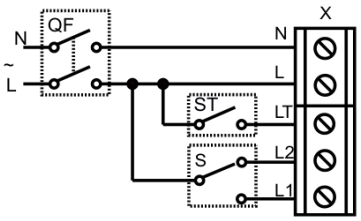


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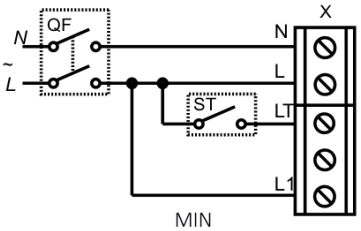


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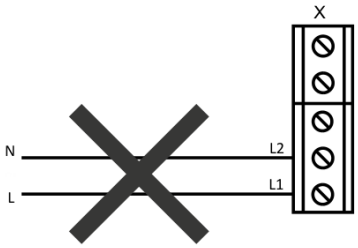


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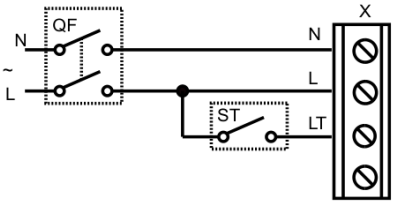


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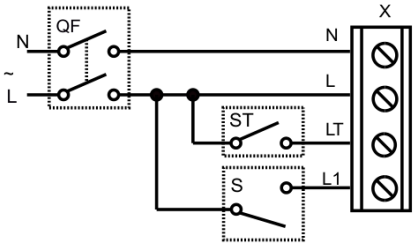


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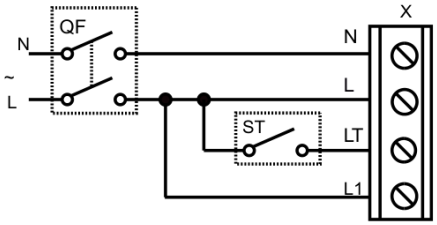


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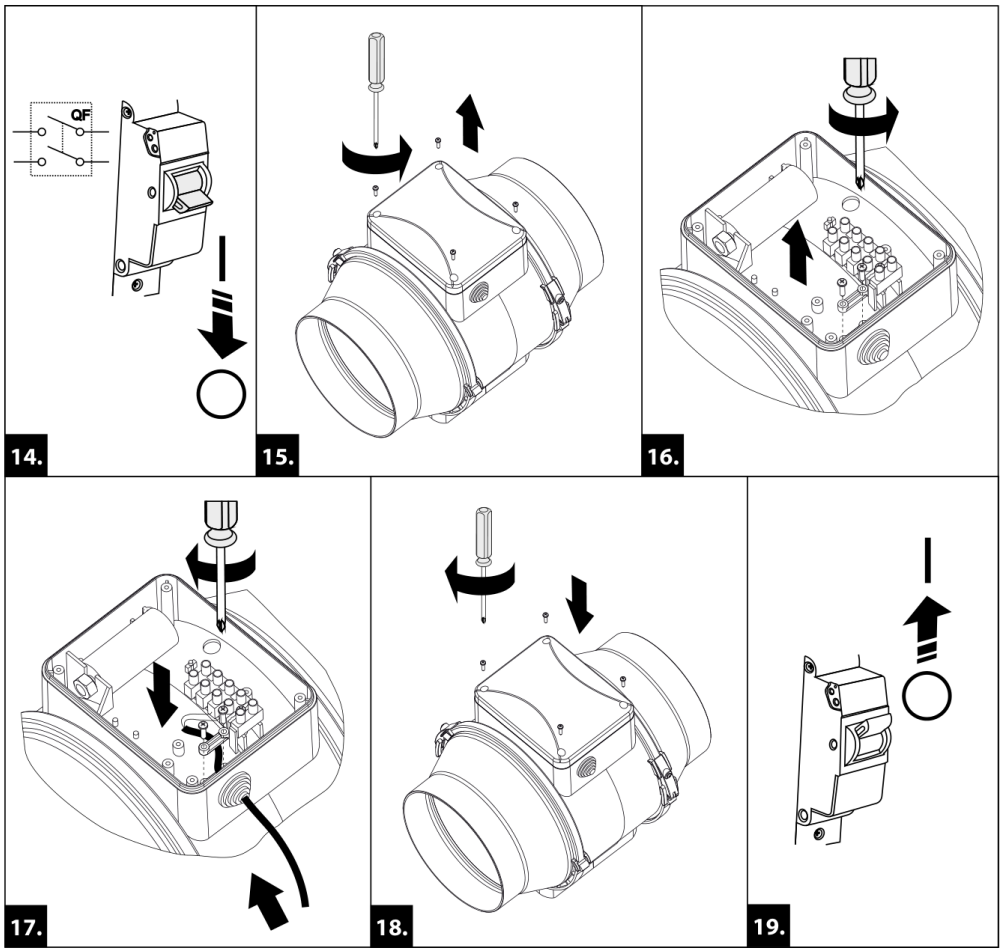
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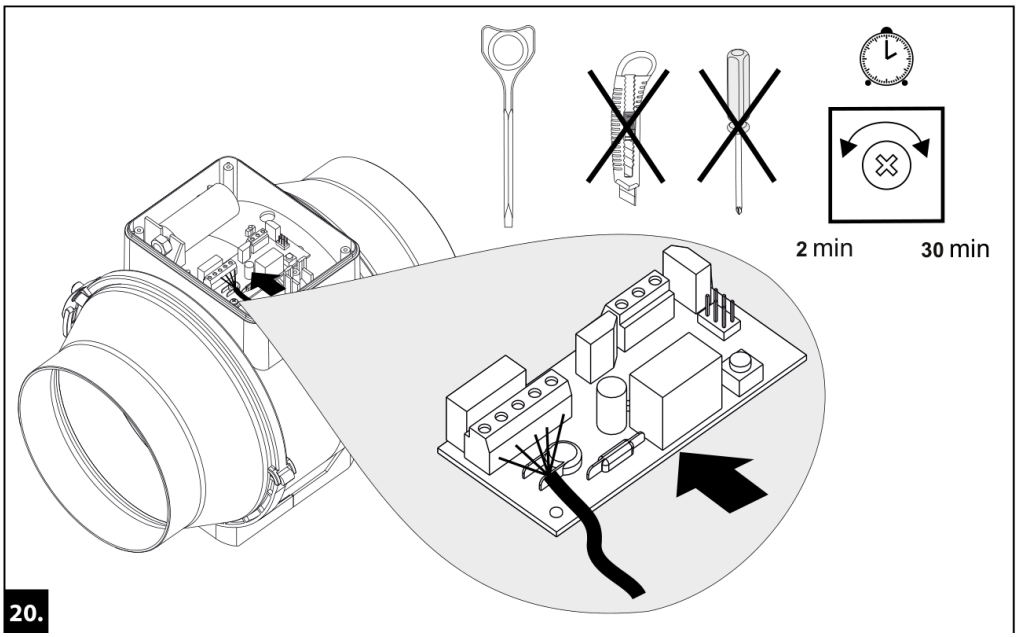
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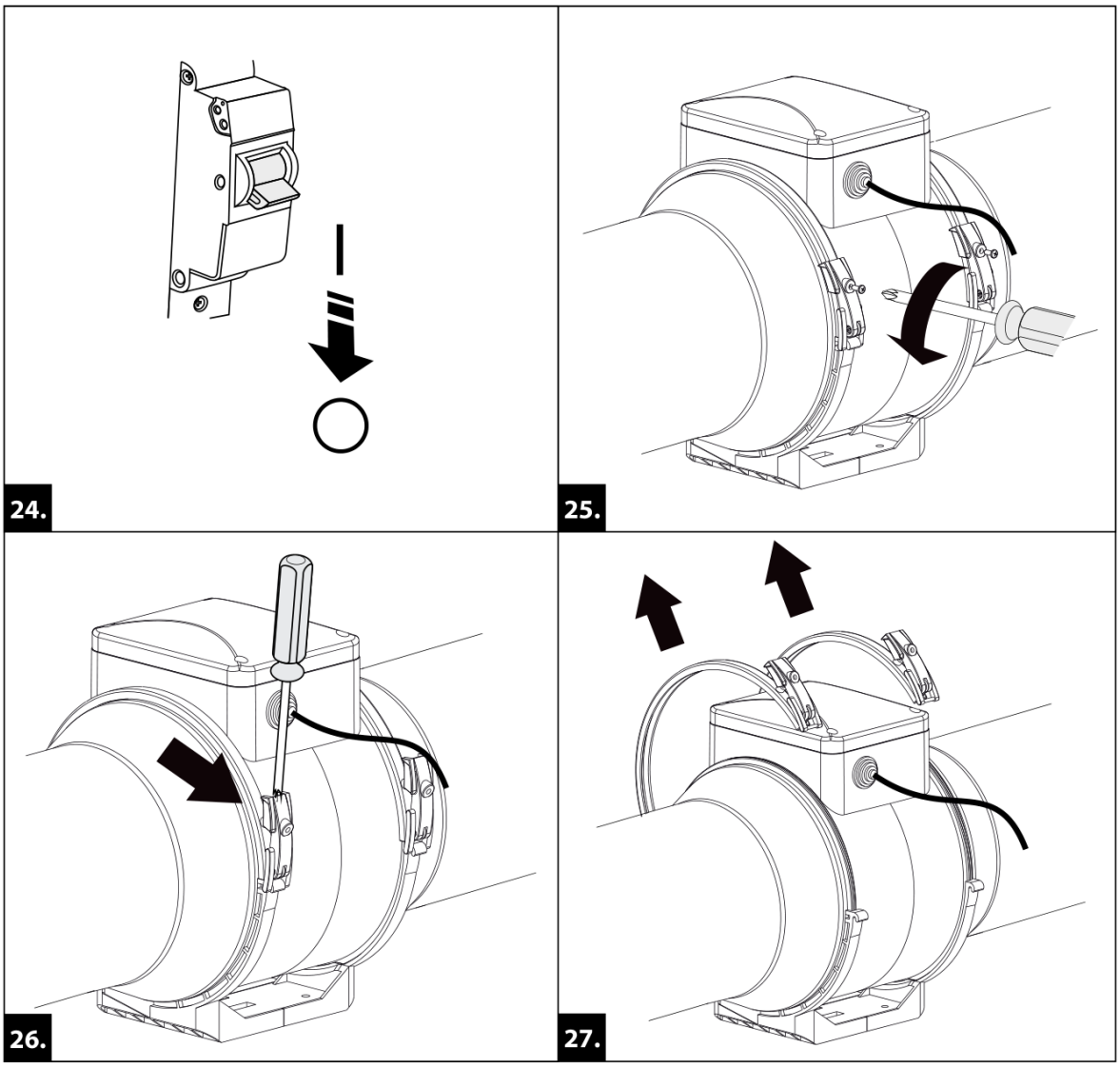
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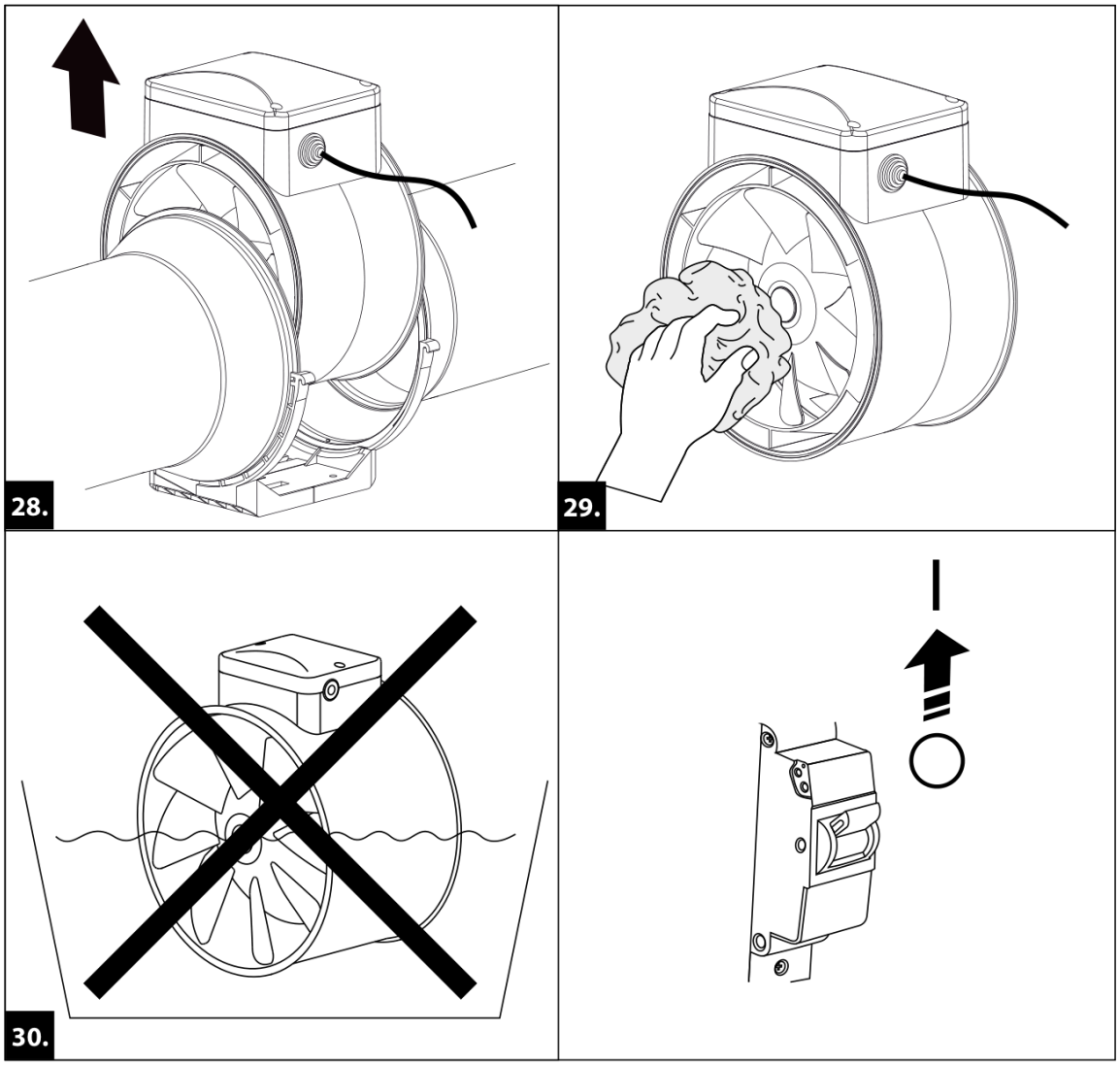
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**This warranty does not in any way affect any statutory or other consumer rights.**


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