

**USER'S  
MANUAL**

**INLINE  
MIXED-FLOW FANS  
VENTS TT**





## WARNING

Any electric connections, adjustment, servicing and repair works are allowed only after the unit is disconnected from power mains.

Mounting and maintenance are allowed only by duly qualified electricians with valid electrical work permit for electric units up to 1000 V.

The single-phase power grid must comply with the acting local electrical norms and standards.

The fixed electrical wiring must be equipped with an automatic circuit breaker.

The fan must be connected to the power grid through the automatic circuit breaker QF.

The gap between the breaker contacts on all poles must be not less than 3 mm.

Before installation check the fan for any visible damages of impeller, casing and grille.

The casing internals must be free of any foreign objects which can damage the impeller blades.

Misuse of the device or any unauthorized modifications are not allowed.

The fan is not to be used by children and persons with reduced physical, mental or sensory capacities, without proper practical experience or expertise, unless they are controlled or instructed on the unit operation by the person(s) responsible for their safety.

Do not leave the children unattended and do not let them play with the product.

Take steps to prevent ingress of smoke, carbon monoxide and other combustion products into the room through open chimney flues or other fire-protection devices. Sufficient air supply must be provided for proper combustion and exhaust of gases through the flue (chimney) of fuel burning equipment to prevent back drafting.

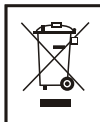
The transported medium must not contain any dust or other solid impurities, sticky substances or fibrous materials.

Do not use the fan in an environment containing hazardous or explosive materials and vapours, i.e. spirits, gasoline, insecticides, etc.

Do not close or block unit inlets and outlets in order to ensure the most effective air passage.

Do not sit or put objects on the product.

Follow the guidelines set forth herein for proper functioning of the unit.



***Recycle at the end of the service life.***

***Do not dispose the unit with other municipal trash.***

**Read this manual carefully before installation and starting of the unit to reduce risk of fire, electric shock or injury. Compliance with the manual requirements ensures reliable fan operation throughout the entire service life. Keep the user's manual throughout entire service life. You may need to re-read it.**



## **DELIVERY SET**

The delivery set includes:

- Fan - 1 pce;
- Screws and dowels - 4 pcs;
- Plastic screwdriver (only for the models with a timer);
- User's manual;
- Packing box.

## **BRIEF DESCRIPTION**

This user's manual contains technical and operating logic description, mounting requirements, servicing and maintenance guidelines for the inline mixed-flow fans designed for supply or exhaust ventilation of premises heated during winter time.

The fan is suitable for connection to 100, 125, 150, 160 mm air ducts.

The fan is equipped with a double-speed motor.

**VENTS TT XXX** - basic model;

**VENTS TT XXX S** - the fan with a high-powered motor;

**VENTS TT XXX V** - the fan with an integrated speed switch;

**VENTS TT XXX RV** - the fan with an integrated speed switch, power cord and plug (fig. 30);

**VENTS TT XXX T** - the fan with a turn-off delay timer regulated from 2 to 30 min. (fig. 29);

**VENTS TT XXX U (U1)** - the fan with a speed controller and electronic thermostat, integrated electronic thermostat, integrated temperature sensor and power cord with a plug (fig. 31);

**VENTS TT XXX Un (U1n)** - the fan is equipped with a speed controller with electronic thermostat, external temperature sensor fixed on 4 m power cord with a plug (fig. 31);

**VENTS TT XXX P** - the fan is equipped with a speed controller and power cord with a plug (fig. 32).

XXX - spigot diameter.

*Due to the constant improvements the design of some models may slightly differ from those described in this manual.*



## WARNING

### OPERATION RULES

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

The fan is designed for continuous operation always connected to the power mains.

Air flow direction in the system must match the direction of the arrow on the fan casing.

Ingress protection rating from access to dangerous parts and water penetration is IPX4.

The fan is designed for operation at ambient temperature range from +1°C up to +40°C.

The air temperature in the ventilation system must not exceed +60°C.

### ELECTRONICS CONTROL LOGIC

The fan **TT XXX T** is started after the external switch supplies control voltage to the input terminal LT, for example, during switching of the light in a room.

After control voltage is off the fan continues running within the time period set by the timer from 2 to 30 min.

To adjust the turn-off time rotate the T timer knob clockwise to increase or counter-clockwise to decrease the turn-off delay time accordingly (fig. 29).

### WARNING

The timer circuit is under mains voltage. Disconnect the fan from power mains prior to any adjustments and operations!

The fan delivery set includes a specially designed plastic screwdriver for fan settings adjustments.

Use the screwdriver to adjust the turn-off delay time or the humidity sensor set point.

Do not use a screwdriver, knife, etc. for adjustments not to damage the circuit board.

The fan **TT XXX U (U1)** fig. 31 is equipped with an electronic module TSC (speed controller with electronic thermostat) for automatic speed control (air capacity regulation) depending on the air temperature.

The terminal compartment incorporates 2 control knobs:

for setting the motor speed;

for setting the electronic thermostat.

The LED indicator placed at the front panel of the fan to show the thermostat operating status.

To set the thermostat threshold rotate the thermostat control knob clockwise to increase or counter-clockwise to decrease the temperature set point accordingly.

To set the fan speed (air capacity) rotate the speed control knob in the same way.  
The fan operating logic may be based on temperature or timer indications:

- *temperature-based operating logic (model TT XXX U)* is used to keep air temperature to within 2°C. In this case the fan switches are rare. The motor sets to maximum speed as the temperature reaches the thermostat set point. The fan runs with the speed set by the speed controller if the temperature drops 2°C below the thermostat set point or if the initial temperature is below the set point.

- *temperature-based operating logic (model TT XXX U1)* is used for exact air temperature control. The motor changes its speed more frequent as compared to the temperature-based logic, but one speed interval continues at least 5 minutes. The motor sets to maximum speed as the temperature reaches the thermostat set point. If the temperature drops below the set thermostat set point, the motor switches to the speed set by the speed controller 5 min. after the timer countdown. If the initial temperature is below the thermostat set point, the motor starts operating at set speed immediately.

The fan **TT XXX P** (fig. 32) is equipped with a speed controller that enables switching the fan on/off, smooth speed (air flow) regulation from minimum to maximum value.

## **MOUNTING**

The fan is suitable both for horizontal or vertical mounting on the floor, on the wall or on the ceiling (fig. 2) as one unit or included into connected in parallel or in series sets (fig. 3).

In case of the horizontal fan mounting install a straight air ducts segment on side of the intake vent not less than 1 m;

In case of the vertical fan mounting install an outer hood to prevent water ingress inside the fan.

The exhaust spigot must be connected to the air duct.

The fan mounting sequence is shown in fig. 4-11 and fig. 23-28.

The fan wiring diagrams are shown in fig. 12-22.

Terminal designation:

L1 - minimum speed terminal;

L2 - maximum speed terminal;

QF - automatic circuit breaker;

S2 - external speed switch;

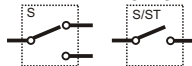
ST - external switch (i.e. light switch);

X - input terminal block.

Designation of the automatic circuit breaker on the wiring diagram



Designation of the external switch on the wiring diagram



Automatic circuit breaker



External on/off switch



1

## MAINTENANCE

Clean the product surfaces regularly (once in 6 months) from dust and dirt (fig. 33-39).

Disconnect the fan from power mains prior to any maintenance operations.

To clean the fan use a soft cloth and a brush wetted in a mild detergent water solution.

Avoid water dripping on the electric components (fig. 38). Wipe the surfaces dry after cleaning.

## STORAGE AND TRANSPORTATION RULES

Transportation is allowed by any vehicle in the original manufacturer's package.

Store the delivered product in the manufacturer's original packing box in a dry ventilated premise with the temperature range from +5 °C up to +40 °C and relative humidity less than 80%.

The storage environment must not contain dust, acid or alkali vapours that may cause corrosion of the product parts.

## WARRANTY

The fan is manufactured at the factory of "Ventilation systems" PrJSC (hereinafter referred to as the Manufacturer). By purchasing this product the customer confirms to have read and agreed to the terms, rules and requirements related to operation, storage, transportation, mounting, adjustment, connection, maintenance and repair as well as warranty obligations with respect to this product as set forth in the manufacturer's accompanying documentation to the product.

Manufacturer hereby sets the warranty term for 60 months from the date of resale subject to fulfilling of all the transportation, storage, mounting and operation requirements by a consumer.

In case of any malfunction of the product through the fault of the Manufacturing company within the warranty period (service life), the customer shall have the right to elimination of the manufacturing defects by means of warranty servicing performed free of charge.

The warranty servicing implies performance of activities related to elimination of defects in the product aimed to provide intended use of the product by the customer.

The defects are eliminated either by replacing or repairing such a product or a part (component) thereof.

### **ATTENTION!**

NOTE: with the purpose of performing warranty servicing you please produce User Manual or other relevant substituting document and the payment document as an evidence of the purchase with indication of the sale date.

The product model shall comply with that one specified in the User Manual or other relevant substituting document.

For warranty servicing please contact the trade company where you purchased the product.

If warranty servicing on the spot proves impossible, you will be provided with the necessary information regarding rendering of this service.

### **Manufacturer's warranty shall not apply in the following cases:**

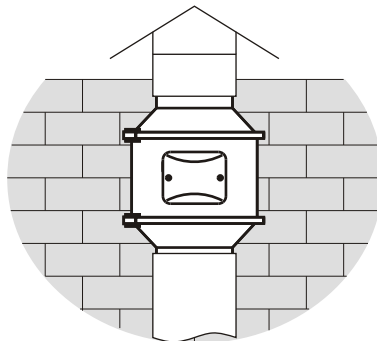
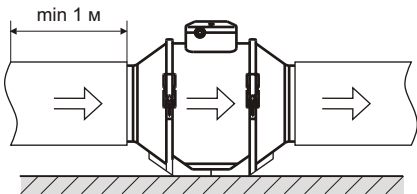
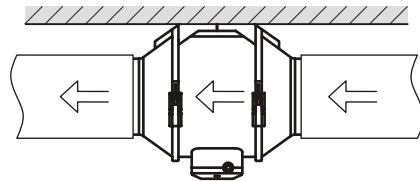
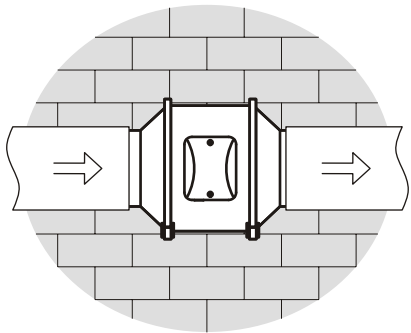
- in case the customer fails to provide the product in complete according to the package contents specified in the User Manual or other relevant substituting document, including any components disassembled by the customer;
- in case of incompliance of the model or marking of the product with data specified on the product packaging and in the User Manual or other relevant substituting document;
- in case of non-timely technical maintenance of the product by the customer (dust, mud, oil condensate, foreign particles);
- in case of causing external damage to the product by the customer ('damage' shall not apply to external changes of the product required for the product mounting);
- in case of altering the product design or further reworking of the product;
- in case of replacing and using parts, units and components of the product not prescribed by the manufacturing company;
- in case of other use of the product other than intended use;
- in case of the customer's violating product operation rules;
- in case of connecting the product to electric mains of voltage exceeding voltage value specified in the user's manual;
- in case of step voltage that resulted in the product failure;
- in case of the customer's performing unauthorised repair of the product;

- in case of performing repair of the product by third persons unauthorized by the manufacturing company;
- in case of warranty period (service life) expiry;
- in case of the customer's violating transportation rules assuring prevention of damaging and/or destruction of the product;
- in case of the customer's violating product storage rules;
- in case of performing unlawful actions by third persons with respect to the product;
- in case of force majeure (fire, flood, earthquake, war, hostilities of any kind, blockade);
- in case of absent seals, provided such seals are prescribed by the User Manual or other relevant substituting document;
- in case of unavailable warranty card;
- in case of unavailable payment document to confirm the purchase with indication of the sale date.

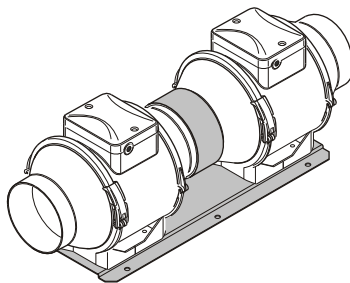
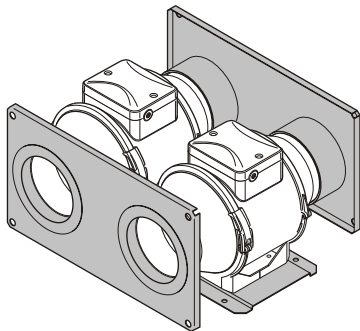
The manufacturing company shall be responsible for defects arising through its fault prior to the moment of transferring the product to the ownership of the customer. The manufacturing company shall not be responsible for defects arising after transferring the product to the customer and caused by the customer's violating the rules of transportation, storage, assembly and operation of the product, or by actions of third persons, an accident or force majeure circumstances.

The manufacturing company shall not be responsible for damage to health and property of the customer caused by the customer's violating the User Manual or other relevant substituting document; other use of the product by the customer other than its intended use, or by failure of the customer to comply with warnings and other information on the product specified in the User Manual or other relevant substituting document, or by the customer's violating the rules of transportation, storage, mounting, maintenance and operation of the product.



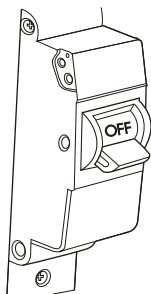
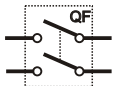


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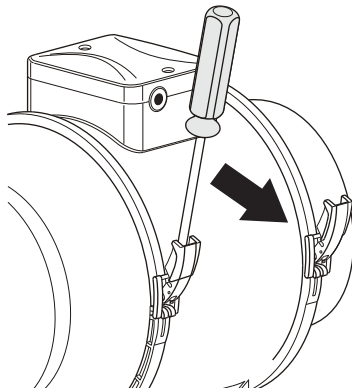
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## MOUNTING

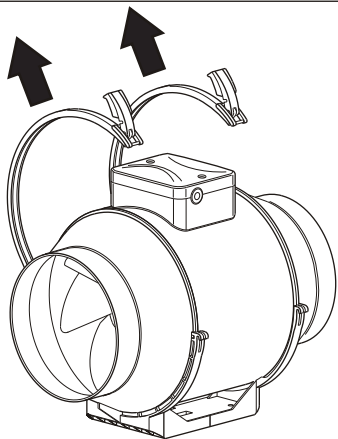


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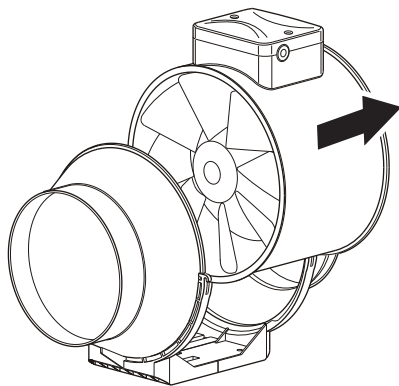
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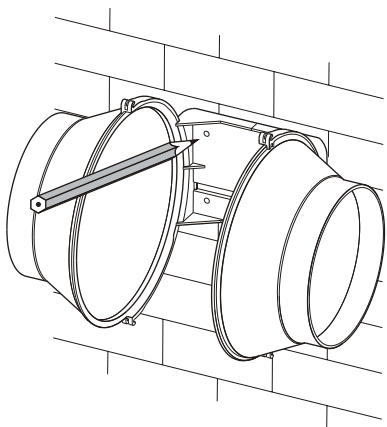
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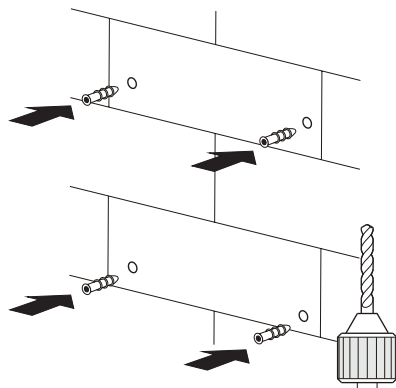
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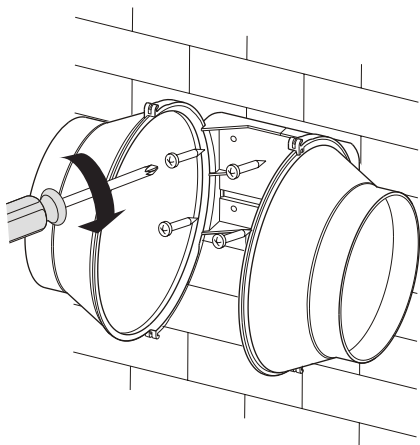
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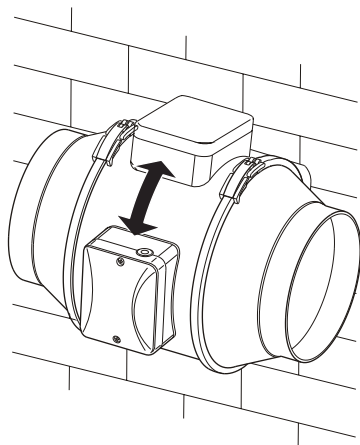
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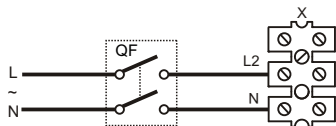


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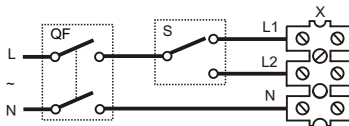


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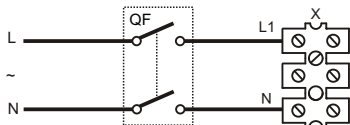
TT 100/125



12 MAX



13 MAX / MIN

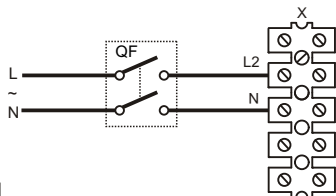


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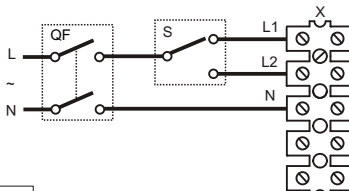


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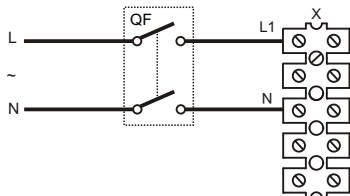
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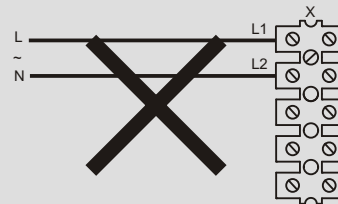
16 MAX



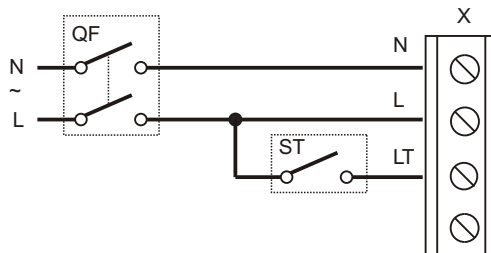
17 MAX / MIN



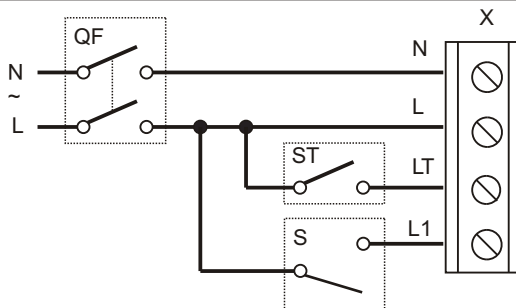
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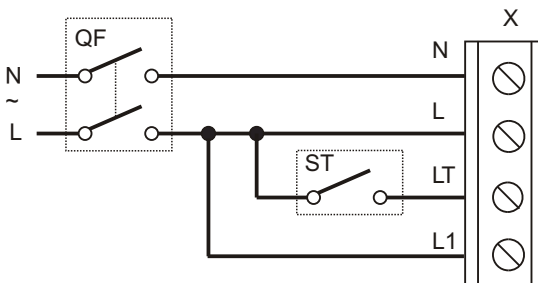
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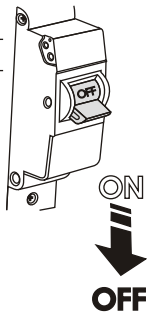
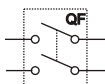
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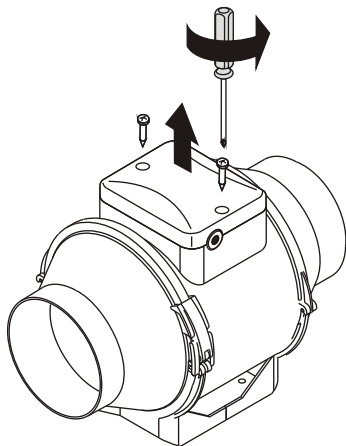
21 MAX / MIN



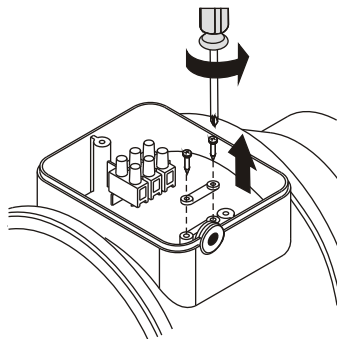
22 MIN



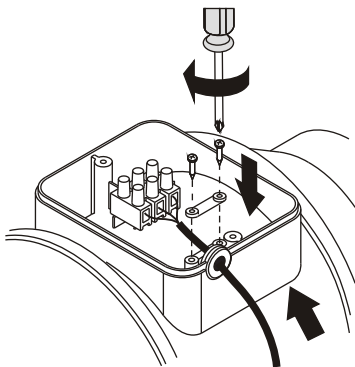
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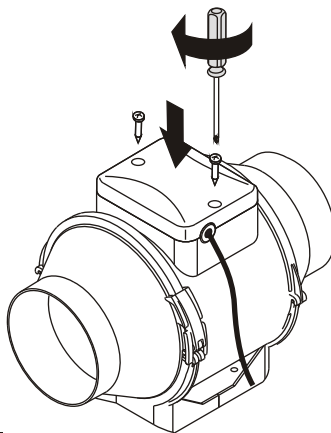
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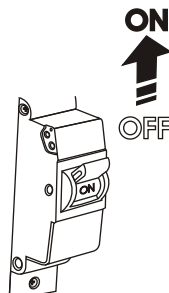
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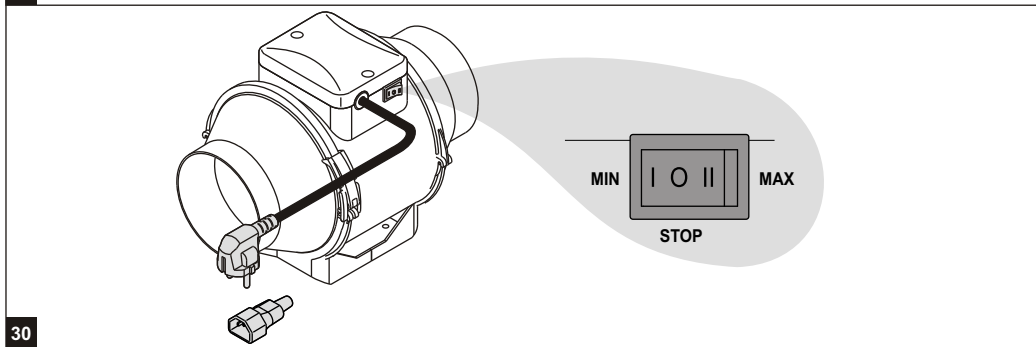
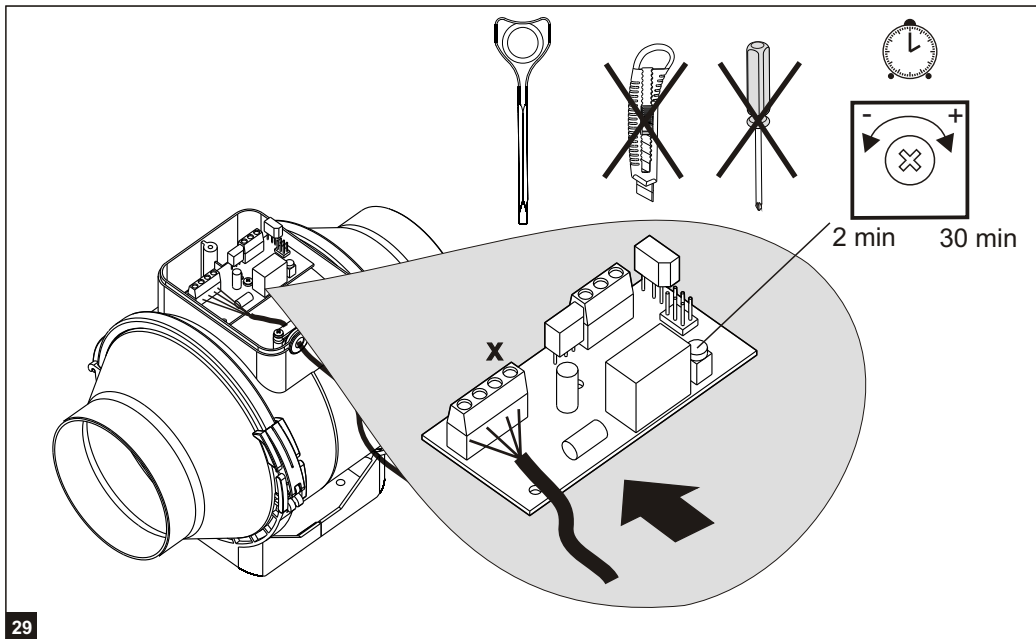
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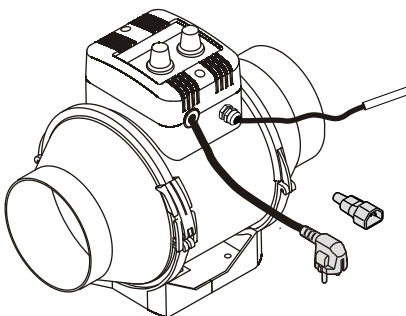
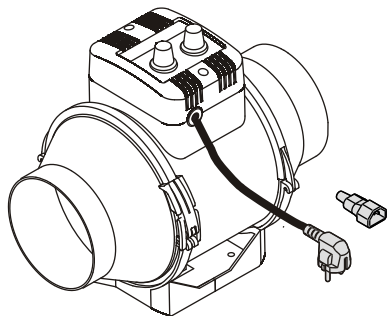


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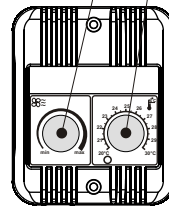
**TT U (U1)**

**TT Un (U1n)**

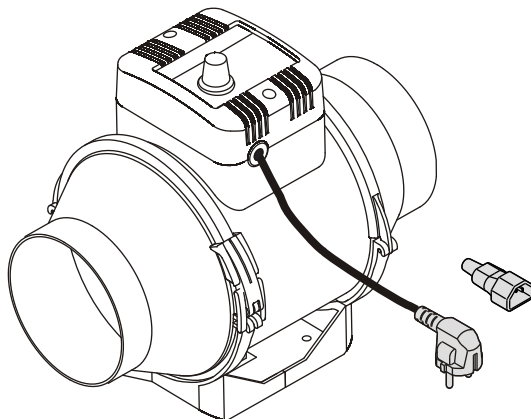


Thermostat control knob

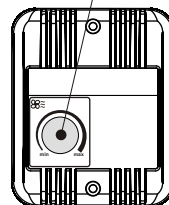
Speed control knob



**31**

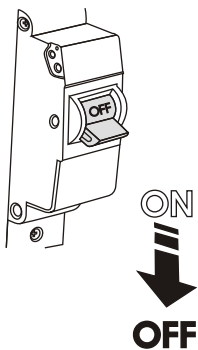


Speed control knob

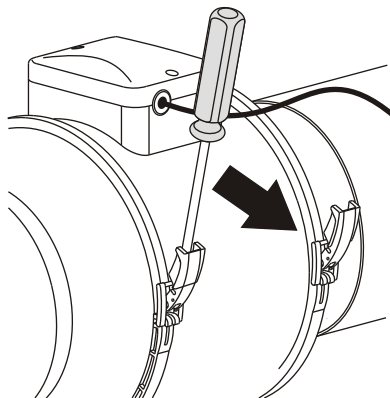


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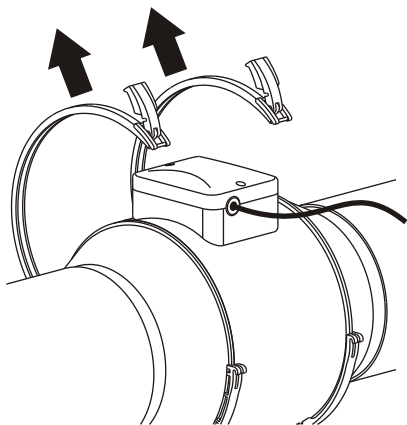




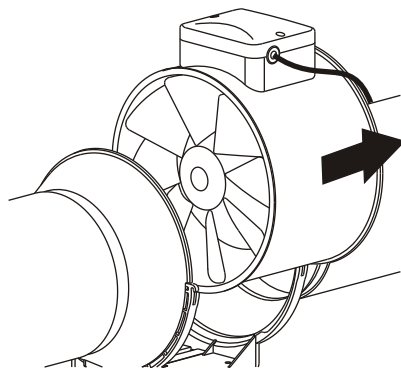
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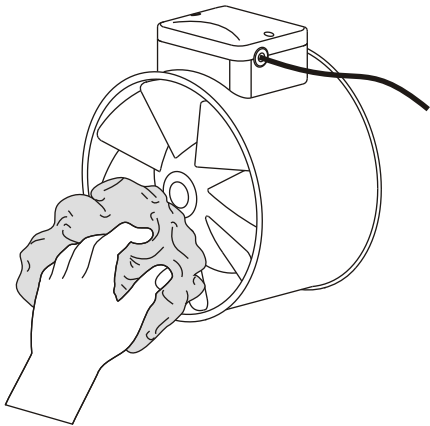
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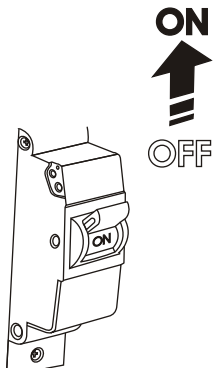
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## ACCEPTANCE INFORMATION

	100	<input type="checkbox"/>	V	<input type="checkbox"/>		
	125	<input type="checkbox"/>	RV	<input type="checkbox"/>		
TT	125S	<input type="checkbox"/>	T	<input type="checkbox"/>	1	<input type="checkbox"/> n <input type="checkbox"/>
	150	<input type="checkbox"/>	U	<input type="checkbox"/>		
	160	<input type="checkbox"/>	P	<input type="checkbox"/>		

Fan is ready for using.

Acceptance stamp

Date of production

Sold  
(name of trade enterprise and stamp of the shop)

Date of sale