



INLINE MIXED-FLOW FANS



EN

Turbo

USER'S MANUAL

CONTENTS

Delivery set.....	7
Brief description	7
Operation guidelines	8
Designation key	9
Mounting	10
Control logic.....	11
Technical maintenance.....	13
Troubleshooting.....	13
Storage and transportation regulations.....	14
Manufacturer's warranty	15

This user's manual is a main operating document intended for technical, maintenance, and operating staff. The manual contains information about purpose, technical details, operating principle, design, and installation of the Turbo unit and all its modifications.

Technical and maintenance staff must have theoretical and practical training in the field of ventilation systems and should be able to work in accordance with workplace safety rules as well as construction norms and standards applicable in the territory of the country.

This unit is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the unit by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the unit.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Cleaning and user maintenance shall not be made by children without supervision.

Children shall not play with the appliance.

Connection to the mains must be made through a disconnecting device, which is integrated into the fixed wiring system in accordance with the wiring rules for design of electrical units, and has a contact separation in all poles that allows for full disconnection under overvoltage category III conditions.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a safety hazard.

CAUTION: In order to avoid a safety hazard due to inadvertent resetting of the thermal cut-out, this unit must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

Ensure that the unit is switched off from the supply mains before removing the guard.

Precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances.

All operations described in this manual must be performed by qualified personnel only, properly trained and qualified to install, make electrical connections and maintain ventilation units.

Do not attempt to install the product, connect it to the mains, or perform maintenance yourself.

This is unsafe and impossible without special knowledge.

Disconnect the power supply prior to any operations with the unit.

All user's manual requirements as well as the provisions of all the applicable local and national construction, electrical, and technical

norms and standards must be observed when installing and operating the unit.

Disconnect the unit from the power supply prior to any connection, servicing, maintenance, and repair operations.

Only qualified electricians with a work permit for electrical units up to 1000 V are allowed for installation. The present user's manual should be carefully read before beginning works.

Check the unit for any visible damage of the impeller, the casing, and the grille before starting installation. The casing internals must be free of any foreign objects that can damage the impeller blades.

While mounting the unit, avoid compression of the casing!

Deformation of the casing may result in motor jam and excessive noise.

Misuse of the unit and any unauthorised modifications are not allowed.

Do not expose the unit to adverse atmospheric agents (rain, sun, etc.).

Transported air must not contain any dust or other solid impurities, sticky substances, or fibrous materials.

Do not use the unit in a hazardous or explosive environment

containing spirits, gasoline, insecticides, etc.

Do not close or block the intake or extract vents in order to ensure the efficient air flow.

Do not sit on the unit and do not put objects on it.

The information in this user's manual was correct at the time of the document's preparation.

The Company reserves the right to modify the technical characteristics, design, or configuration of its products at any time in order to incorporate the latest technological developments.

Never touch the unit with wet or damp hands.

Never touch the unit when barefoot.

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



**THE PRODUCT MUST BE DISPOSED SEPARATELY AT THE END OF ITS SERVICE LIFE.
DO NOT DISPOSE THE UNIT AS UNSORTED DOMESTIC WASTE.**

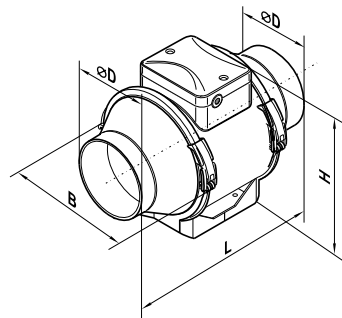
DELIVERY SET

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 \varnothing 100, 125, 150, 160, 200, 250 and 315 mm air ducts. The unit is equipped with a two speed motor.

	\varnothing D	B	H	L
Turbo 100	97	195,8	241/255*	302,5
Turbo 125	123	195,6	241/255*	258,5
Turbo 150	148	220,1	251/265*	289
Turbo 160	158	220,1	251/265*	289
Turbo 200	199	239	261/278*	295,5
Turbo 250	247	287	323/340*	383
Turbo 315	310	362	408/424*	445



* Turbo G11/G1/GT11/GT1/FR1



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.

To comply with the ErP 2018 regulation, a local demand controller and speed controller must be used.

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

DESIGNATION KEY

Turbo

100

T

Options:

T: timer

W1: power cord with a plug

US: speed switch

G11: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic

G1: speed controller with an electronic thermostat and an outdoor temperature sensor fixed on a 4 m cord. Temperature-based operation logic

GT11: speed controller with an electronic thermostat and an integrated temperature sensor. Timer-based operation logic

GT1: speed controller with an electronic thermostat and an outdoor temperature sensor fixed on a 4 m cord. Timer-based operation logic

FR1: integrated smooth speed controller

Spigot diameter [mm]

Inline mixed-flow fan

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

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 **Turbo (US)W1** fans are equipped with a speed switch (Fig. 21).

The **Turbo 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.

The **Turbo G11/GT11** fan is equipped with an electronic TSC control unit (speed controller with electronic thermostat) for automatic speed control (air flow control) depending on the air temperature (Fig. 22).

The terminal box cover incorporates 2 control knobs:

- for setting the fan speed;
- for setting the thermostat set point.

The thermostat LED light is located on the fan casing.

The thermostat LED glows as air temperature exceeds the set point.

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

To set the fan speed (air flow) rotate the speed control knob in the same way.

The fan functioning logic may be based on temperature or timer controls:

Turbo G11/G1: the fan switches to the maximum speed as the room air temperature exceeds the set point.

As the air temperature drops down 2 °C below the temperature set point or if the initial temperature is below the set point, the fan operates with the set speed.

Turbo GT11/GT1: the fan switches to the maximum speed as the room air temperature exceeds the set point.

As the room air temperature drops down below the temperature set point, the timer starts 5 minutes countdown and then the fan switches to the set speed.

The **Turbo FR1** fan is equipped with a speed controller that enables switching the fan on/off, smooth speed (air flow) control from minimum to maximum value (Fig. 23).

TECHNICAL MAINTENANCE

The fan surfaces must be regularly cleaned (once in 6 months) from dirt and dust (Fig. 24-30). 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 a 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 от +5 °C до +40 °C and relative humidity up to 70 %.
- Storage environment must not contain aggressive vapors 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.

Production meets standard operating requirements in the USA and Canada.

Blauberg warrants to the original purchaser of the unit that it will be free from defects in materials or workmanship for a period of 24 months from the date of original purchase. The Blauberg warrants to the original purchaser of the unit that the integrated control unit will be free from defects in materials and workmanship for a period of 24 months from the date of original purchase.

THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

During the stated warranty period, Blauberg will, at its option, repair or replace, without charge, any product or part which is found to be defective under normal use and service. This warranty does not cover (a) normal maintenance and normal service or (b) any products or parts which have been subject to misuse, negligence, accident, improper maintenance or repair (other than by Blauberg), faulty installation or installation contrary to recommended installation instructions. Labor to remove and replace products is not covered. The duration of any implied warranty is limited to the time period specified for the express warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

BLAUBERG OBLIGATION TO REPAIR OR REPLACE, AT BLAUBERG OPTION, SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. BLAUBERG SHALL NOT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH PRODUCT USE OR PERFORMANCE.

Some states do not allow the exclusion or limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty supersedes all prior warranties. If proof of sales date is absent, warranty period is calculated from the production date. The unit can be exchanged at the following address:



Blauberg North America LLC
1501 Veterans Memorial Pkwy E, Ste. 202, Lafayette, IN 47905
Tel: (765) 780-7139
Fax: (661) 825-8895
info@blauberg-na.com

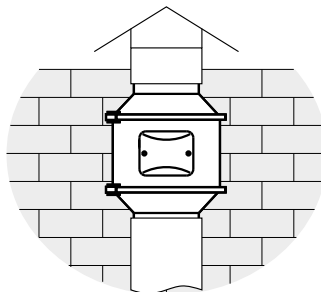
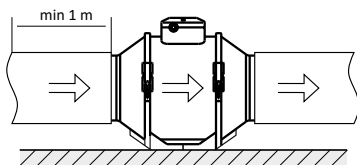
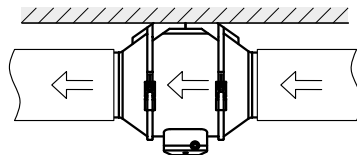
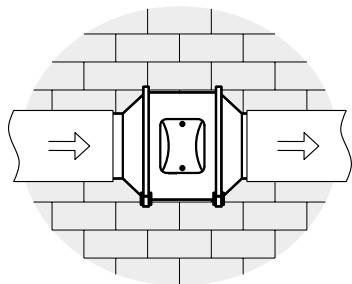
Please follow guidelines in this manual for product problem-free operation.



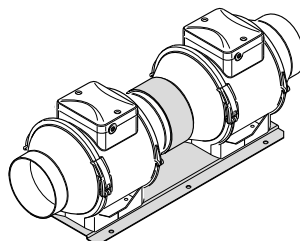
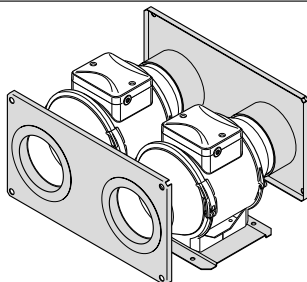
FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT



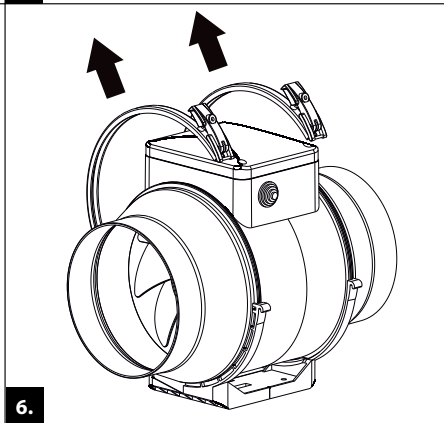
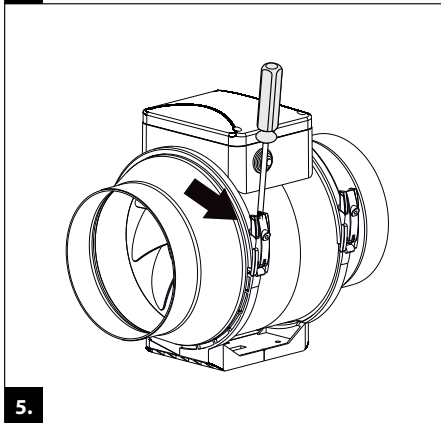
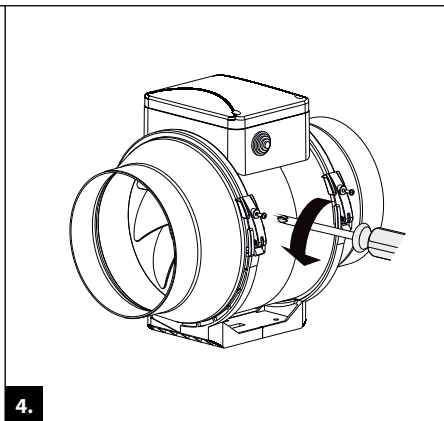
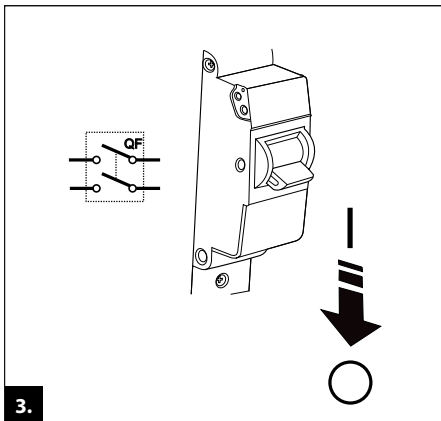
USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP

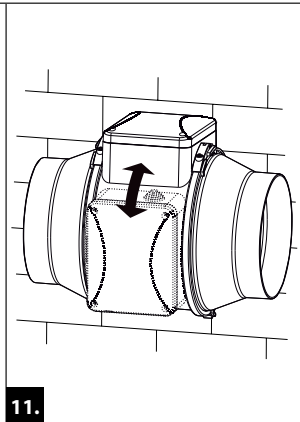
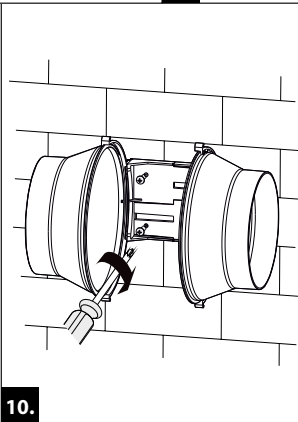
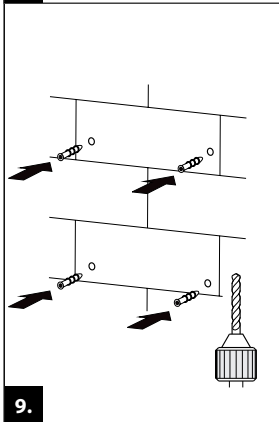
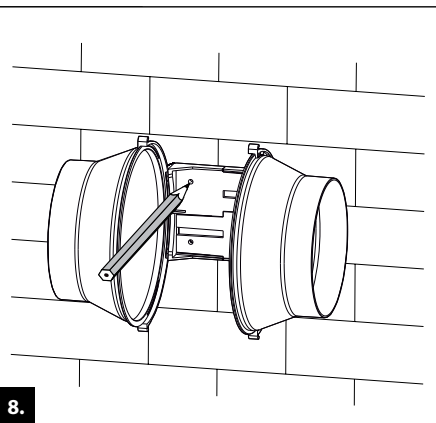
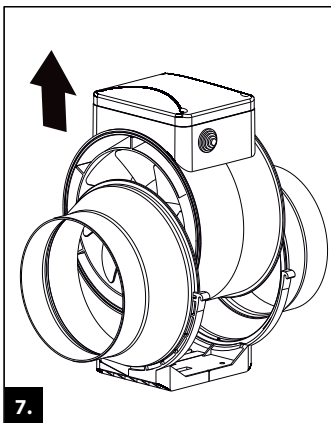


1.

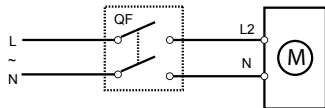


2.

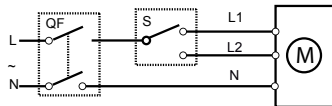




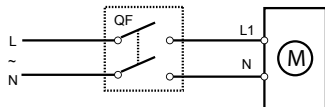
Turbo



MAX



MAX / MIN



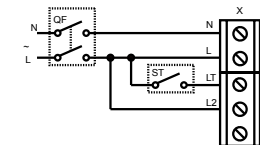
MIN



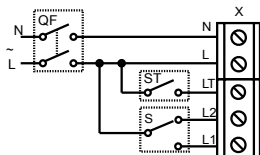
12.

Turbo T

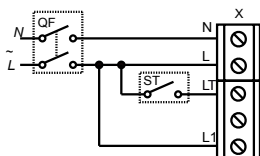
Terminal block for 5 contacts



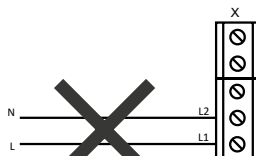
MAX



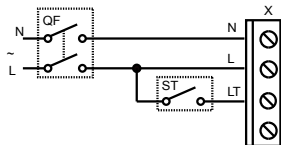
MAX / MIN



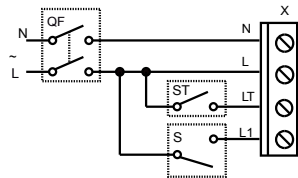
MIN



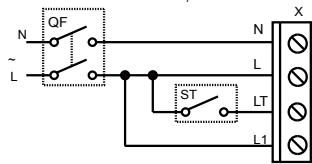
Terminal block for 4 contacts



MAX

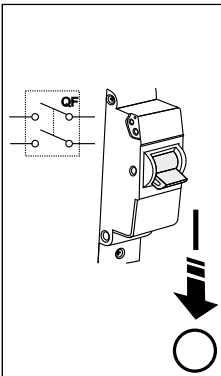


MAX / MIN

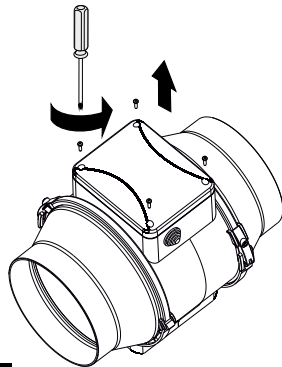


MIN

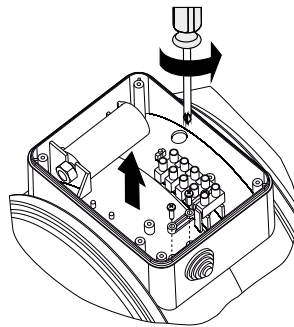
13.



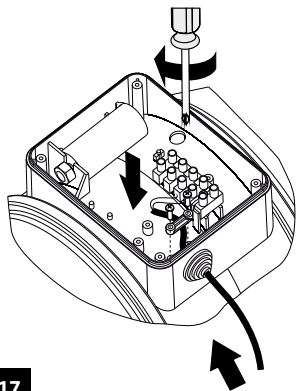
14.



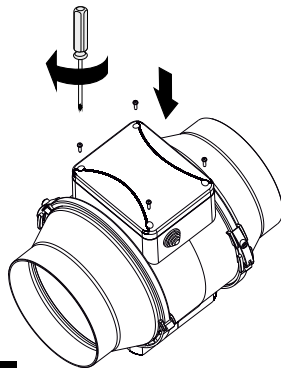
15.



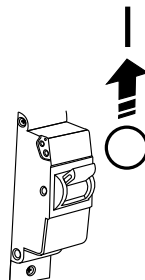
16.



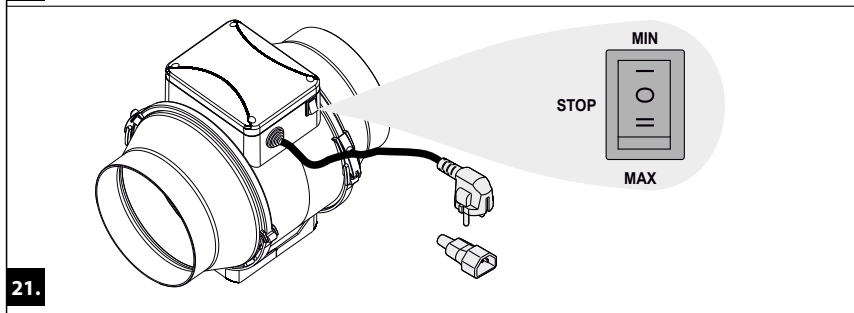
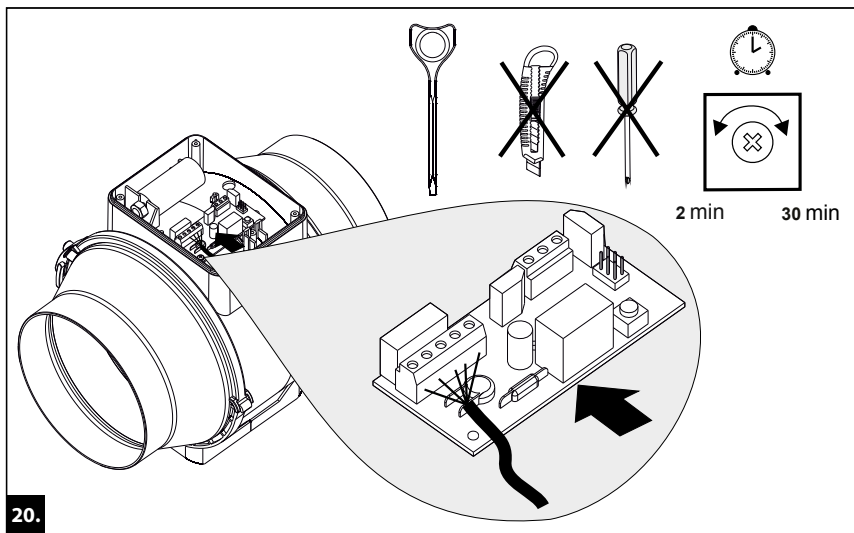
17.



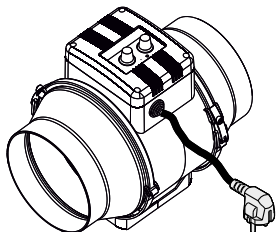
18.



19.

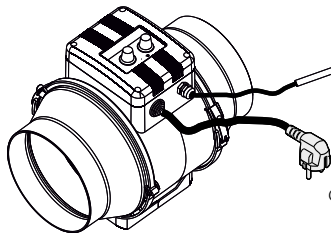


Turbo G1/GT1



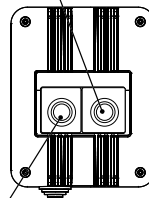
22.

Turbo G1/GT1

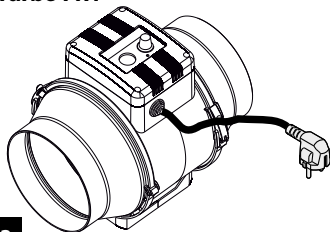


Speed
control knob

Thermostat
control knob

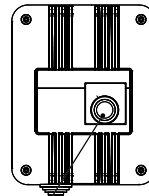


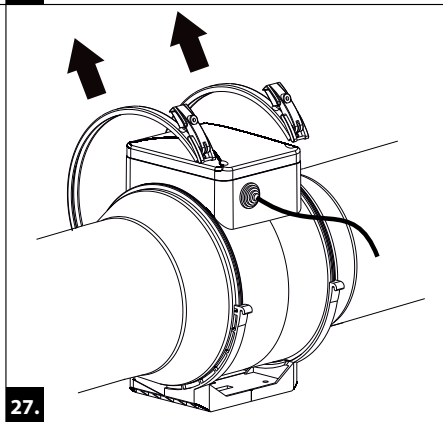
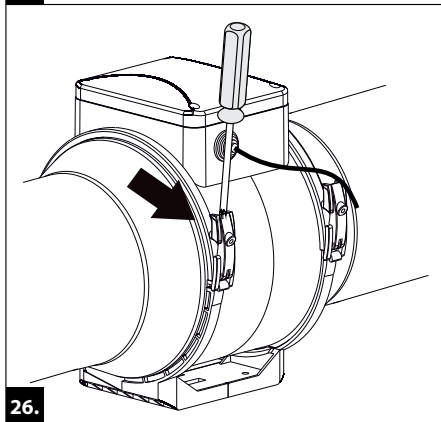
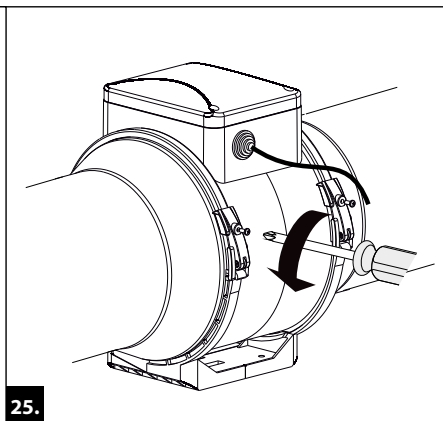
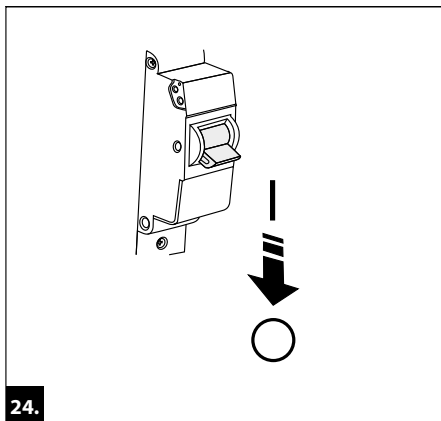
Turbo FR1

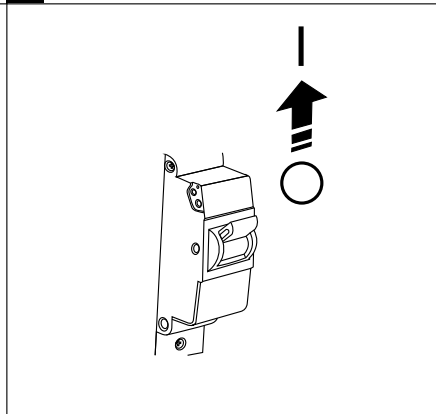
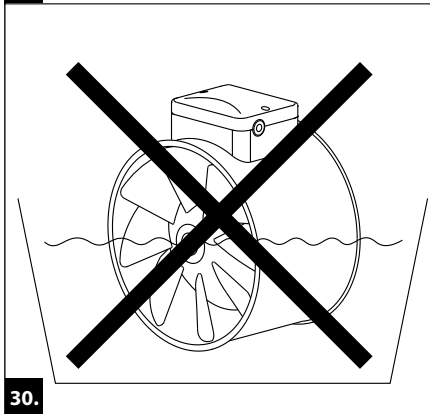
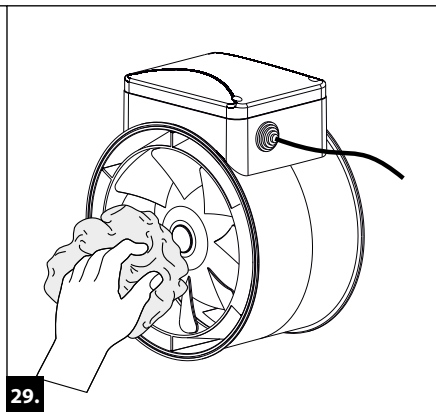
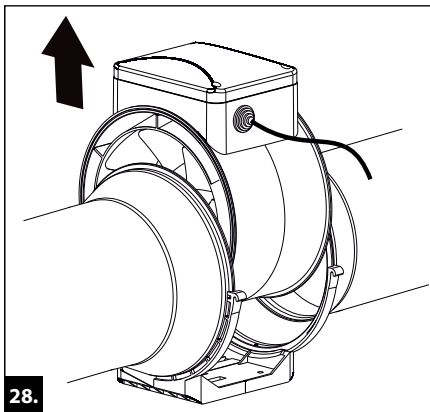


23.

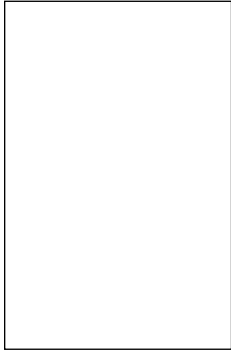
Speed
control knob



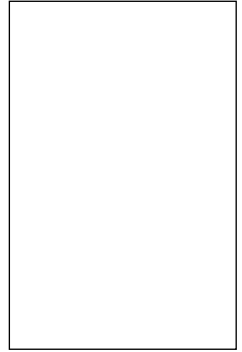




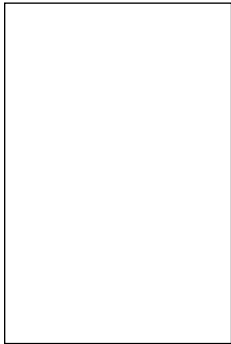
Quality Inspector's Stamp

A large, empty rectangular box with a thin black border, intended for a quality inspector's stamp.

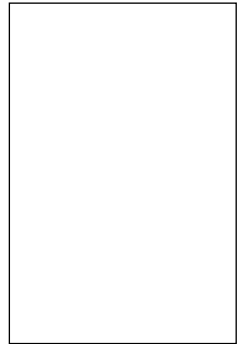
Sold by
(name and stamp of the seller)

A large, empty rectangular box with a thin black border, intended for the seller's name and stamp.

Manufacture Date

A large, empty rectangular box with a thin black border, intended for the manufacture date.

Purchase Date

A large, empty rectangular box with a thin black border, intended for the purchase date.

Turbo_____



www.blaubeck-na.com

BUSA77EN-05