



## **INLINE MIXED-FLOW FANS**



EN

# **Turbo EC**

---

**USER'S MANUAL**

## CONTENT

Delivery set.....	6
Brief description .....	7
Operation guidelines .....	7
Designation key.....	8
Installation .....	9
Operation algorithm.....	10
Maintenance.....	10
Storage and transportation regulations.....	10
Manufacturer's warranty .....	11

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 EC 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.



**READ THE USER'S MANUAL CAREFULLY BEFORE PROCEEDING WITH INSTALLATION WORKS.  
COMPLIANCE WITH THE MANUAL REQUIREMENTS ENSURES RELIABLE OPERATION AND LONG  
SERVICE LIFE OF THE UNIT.  
KEEP THE USER'S MANUAL AVAILABLE AS LONG AS YOU USE THE UNIT. YOU MAY NEED TO  
REREAD THE INFORMATION ON THE PRODUCT SERVICING.**

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 and maintenance. 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 device 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.

**WARNING! Similar to the use of any other household electrical appliances when operating this fan, the following basic rules must be followed:**

- Never touch the unit with wet or damp hands.
- Never touch the unit when barefoot.

This appliance 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 appliance by a person responsible for their safety.

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

The connection to the supply mains must be made through a means of disconnection, which is incorporated in the fixed wiring in accordance with the wiring rules, 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.

If the cord set is damaged, it must be replaced by a special cord set available from the manufacturer or its service agent.

**CAUTION:** In order to avoid a safety hazard due to inadvertent resetting of the thermal cut-out, this appliance 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 appliance 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.



**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.
User's manual	— 1 pc.
Packing box	— 1 pc.

## BRIEF DESCRIPTION

The product described herein is a mixed-flow inline fan for supply or exhaust ventilation of premises heated during winter time.

The fan is designed for connection to  $\varnothing$  4", 5", 6", 8", 10" air ducts.

The fan is equipped with an energy-efficient and high-performance electronically commutated motor (EC motor) and with a built-in speed controller.

An external control unit can be connected to the fan (purchased separately).

The fan design is constantly being improved, thus some models may be slightly different from those described in this manual.

## OPERATION GUIDELINES

The fan is rated for connection to single-phase AC 120 V/60 Hz power mains.

The fan is rated for continuous operation.

Air motion direction in the system must match the pointer on the fan casing.

Hazardous parts access and water ingress protection rating is IPX4.

The fan is rated for operation at the ambient temperature ranging from +34 °F up to +104 °F.

Transported air temperature must not exceed +104 °F. Temperature up to +140 °F is allowed for a short time (up to 15 minutes).

The ventilator is rated as a class II electric appliance.

## DESIGNATION KEY

**Turbo**

**EC**

**XXX**

**X**

**Options:**

**FR1:** smooth speed controller from 0 to 100 % and power cord with mains plug

**Spigot diameter [mm]**

**Electronically commutated motor**

**Inline fan**



## INSTALLATION

The fan is suitable both for horizontal or vertical mounting on the floor, on the wall or on the ceiling (Fig. 1).

While mounting the fan provide extra protection against water ingress, such as:

1. For the top mounting: install an outer protecting hood above (Fig. 2).
2. For any mounting position: connect an air duct on both sides of the fan (Fig. 2).

The mounting sequence is shown in Fig. 3-8.

The fan wiring diagram is shown in Fig. 9-11, 13-14.

The external control unit wiring diagram is shown in Fig. 9, 10, 12-14.

The fan wiring diagram is shown in Fig. 15.

### TERMINAL DESIGNATIONS ON WIRING DIAGRAMS

<b>QF</b>	external circuit breaker
<b>X1</b>	terminal block for 120 V/60 Hz power mains
<b>X2</b>	terminal block for connection of an external speed controller
<b>S1</b>	external speed controller 0-10 V
<b>R1</b>	internal speed controller
<b>SW</b>	DIP switch

## OPERATION ALGORITHM

The motor is controlled by sending of an external control signal from 0 to 10 V to the X2 terminal block or by the R1 internal speed controller. Control method selection is carried out by means of the SW DIP switch:

- DIP switch in IN position. The control signal is set by the R1 internal speed controller, which allows to turn the fan on and off, smoothly adjust the speed of the fan motor (air flow) in the range from minimum to maximum speed. Rotations are controlled from minimum (extreme left position) to maximum (extreme right position). When rotating clockwise, the rotations increase.
- DIP switch in EXT position. The control signal is set by the S1 external control unit.

## MAINTENANCE

Clean the product surfaces regularly (once in 6 months) from dust and dirt (Fig. 16-19). 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. Avoid water ingress to electrical components.

Wipe the unit surfaces dry after cleaning.

## STORAGE AND TRANSPORTATION REGULATIONS

- Store the unit in the manufacturer's original packaging box in a dry closed ventilated premise with temperature range from +41 °F to +104 °F 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.

## MANUFACTURER'S WARRANTY

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

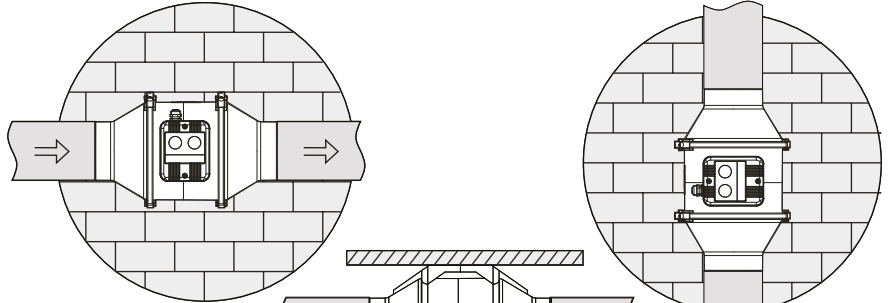
Please follow guidelines in this manual for product problem-free operation.



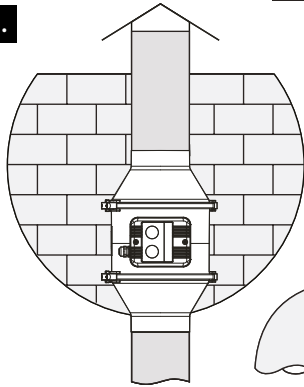
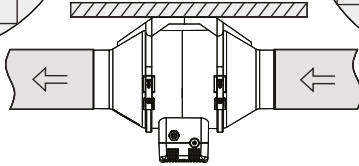
**FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT**



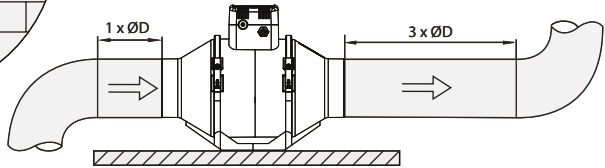
**USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP**

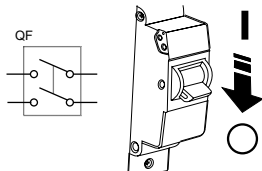


1.

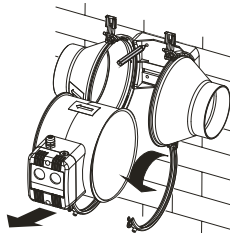


2.

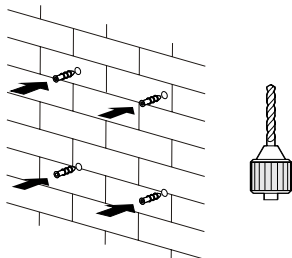




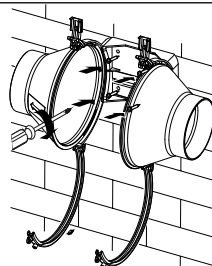
3.



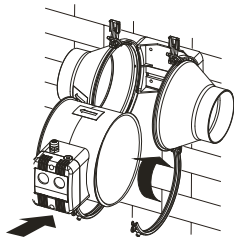
4.



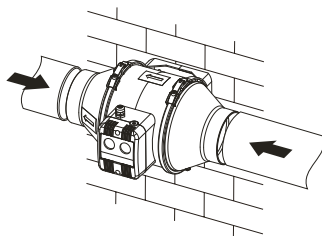
5.



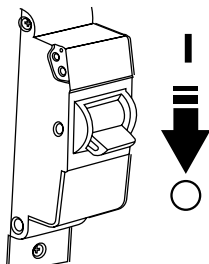
6.



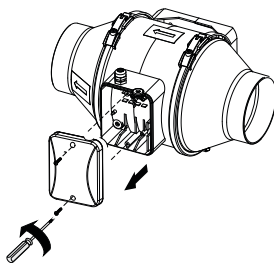
7.



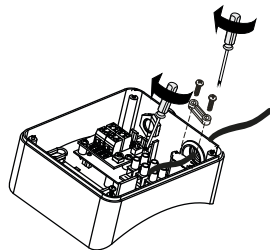
8.



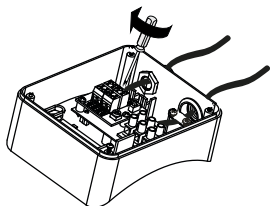
9.



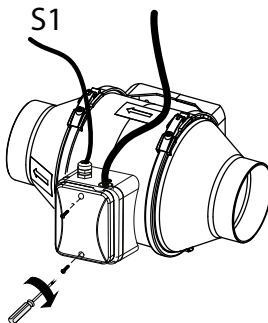
10.



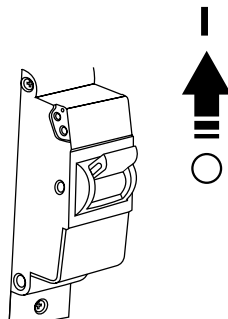
11.



12.

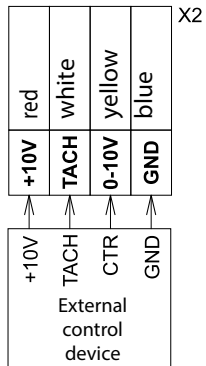
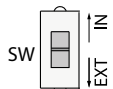
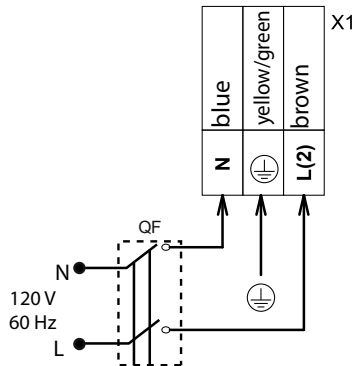


13.

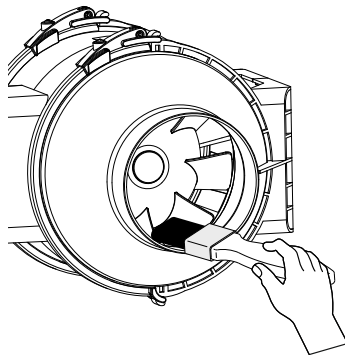
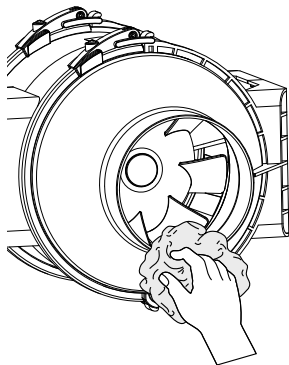
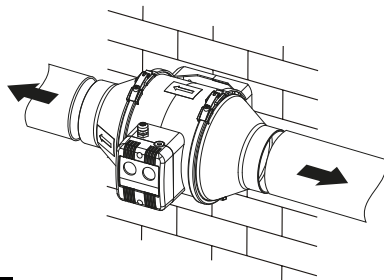
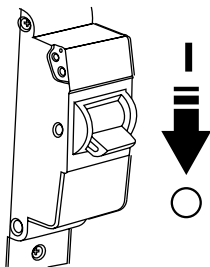


14.

15.

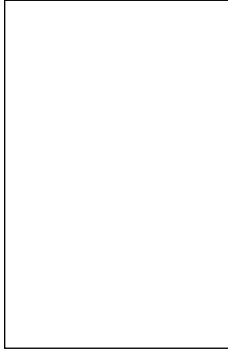




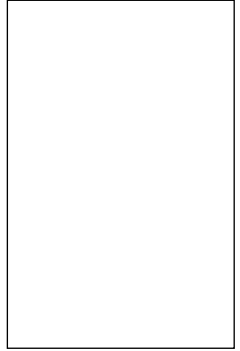




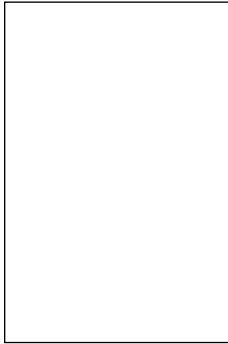
Quality Inspector's Stamp

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

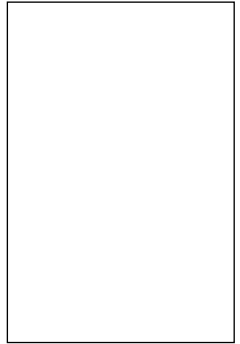
Sold by  
(name and stamp of the seller)

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

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 EC\_\_\_\_\_



[www.blaubeck-na.com](http://www.blaubeck-na.com)



BUSA10-1EN-01