

# USER'S MANUAL

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**Boost 315**

**Boost 315 EC**

**Boost 355**

**Boost 355 EC**

**Boost 400**

**Boost 400 EC**



Inline mixed-flow fan



**CONTENTS**

|                                             |    |
|---------------------------------------------|----|
| Safety requirements.....                    | 3  |
| Purpose.....                                | 6  |
| Delivery set.....                           | 6  |
| Designation key.....                        | 6  |
| Technical data.....                         | 7  |
| Mounting and set-up.....                    | 8  |
| Electronics operation algorithm.....        | 9  |
| Connection to power mains .....             | 10 |
| Technical maintenance.....                  | 11 |
| Troubleshooting.....                        | 12 |
| Storage and transportation regulations..... | 12 |
| Manufacturer's warranty.....                | 13 |
| Certificate of acceptance.....              | 14 |
| Seller information.....                     | 14 |
| Installation certificate.....               | 14 |
| Warranty card.....                          | 14 |

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 Boost 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.

## SAFETY REQUIREMENTS

Read and save these instructions.

**Warning** – to reduce the risk of fire, electric shock, or injury to Persons, observe the following:

- a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
- b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

**CAUTION!** This unit has an unguarded impeller. Do Not Use In Locations Readily Accessible To People Or Animals.

- a) Do not operate any fan with a damaged cord or plug. Discard fan or return to an authorized service facility for examination and/or repair.
- b) Do not run cord under carpeting. Do not cover cord with throw rugs, runners, or similar coverings. Do not route cord under furniture or appliances. Arrange cord away from traffic area and where it will not be tripped over.

**WARNING!** To Reduce The Risk Of Fire, Electric Shock Or Injury To Persons, Do Not Use Replacement Parts That Have Not Been Recommended By The Manufacturer (e.g. Parts Made At Home Using A 3D Printer).

**WARNING** – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

- a) Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
- b) Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
- c) When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
- d) Ducted fans must always be vented to the outdoors.
- e) If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) – protected branch circuit.

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.

**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.

**WARNING:** If there are any unusual oscillating movements, immediately stop using the unit and contact the manufacturer, its service agent or suitably qualified persons.

The replacement of parts of the safety suspension system device shall be performed by the manufacturer, its service agent or suitably qualified persons.

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 appliance may adversely affect the safe operation of appliances burning gas or other fuels (including those in other rooms) due to back flow of combustion gases. These gases can potentially result in carbon monoxide poisoning. After installation of the unit the operation of flued gas appliances should be tested by a competent person to ensure that back flow of combustion gases does not occur.

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.

Connection of the unit to power mains is allowed by a qualified electrician with a work permit for the electric units up to 1000 V after careful reading of the present user's manual.

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 UNIT MUST NOT BE OPERATED IN KITCHEN PREMISES.**



**NOT SUITABLE FOR USE WITH SOLID-STATE SPEED CONTROLS**



**MOTOR IS THERMALLY PROTECTED**



**FOR INTERIOR USE ONLY**



**INSTALL IN INTERIOR WALL**



**THIS DUCT FAN SHALL BE INSTALLED A MINIMUM OF ONE METRE FROM ANY ACCESSIBLE OPENING OF THE DUCT**



**THE PRODUCT MUST BE DISPOSED SEPARATELY AT THE END OF ITS SERVICE LIFE.**

**DO NOT DISPOSE THE UNIT AS UNSORTED DOMESTIC WASTE.**

## PURPOSE

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

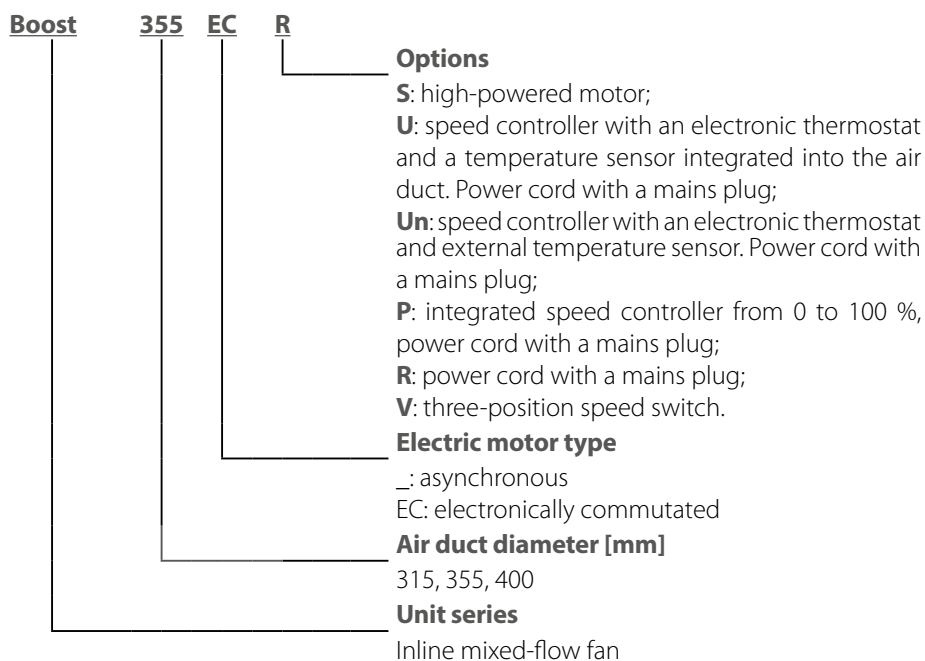
The fan is designed for connection to ø 315, 355 and 400 mm air ducts.

Transported air must not contain any flammable or explosive mixtures, evaporation of chemicals, sticky substances, fibrous materials, coarse dust, soot and oil particles or environments favourable for the formation of hazardous substances (toxic substances, dust, pathogenic germs).

## DELIVERY SET

| Name          | Number |
|---------------|--------|
| Fan           | 1 pc.  |
| User's manual | 1 pc.  |
| Packing box   | 1 pc.  |

## DESIGNATION KEY



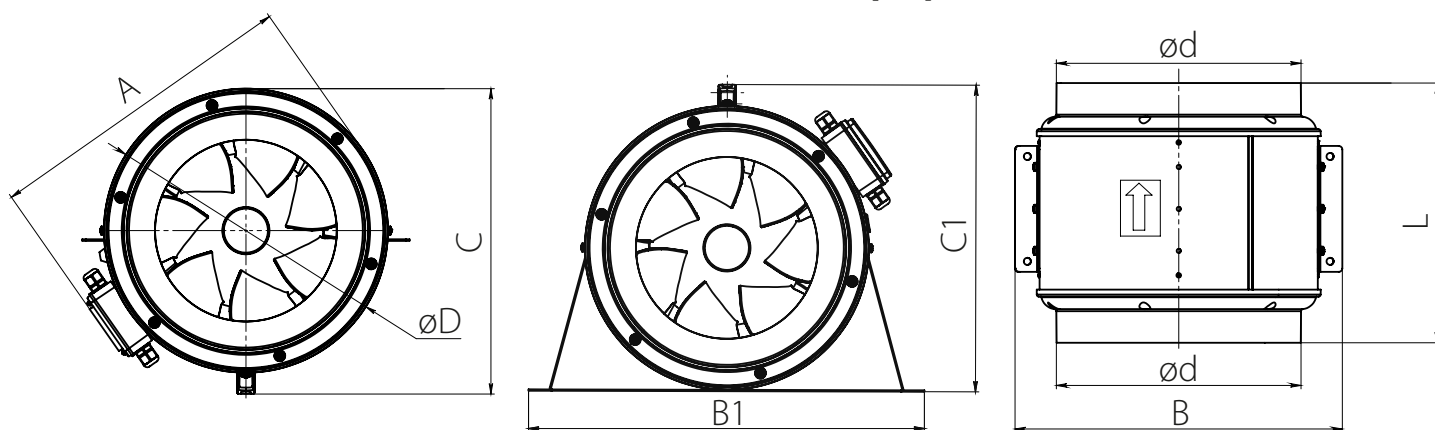
## TECHNICAL DATA

The unit is designed for indoor application with the ambient temperature ranging from +34 °F up to +104 °F and relative humidity up to 80 % at 77 °F. Ingress protection rating against access to hazardous parts and water ingress is IPX4.

The unit is rated as a class I electric appliance. The unit design is constantly being improved, thus some models may be slightly different from those described in this manual.



Overall dimensions of the unit [mm]



| Model     | Dimensions [mm] |     |     |     |     |     |     |     | Weight [kg] |
|-----------|-----------------|-----|-----|-----|-----|-----|-----|-----|-------------|
|           | D               | d   | A   | L   | B   | B1  | C   | C1  |             |
| Boost 315 | 406             | 310 | 451 | 468 | 468 | 566 | 437 | 439 | 15          |
| Boost 355 | 406             | 350 | 451 | 372 | 468 | 566 | 437 | 439 | 15          |
| Boost 400 | 451             | 395 | 496 | 415 | 513 | 623 | 482 | 484 | 18.5        |

## MOUNTING AND SET-UP



**READ THE USER'S MANUAL BEFORE INSTALLING THE UNIT**



**BEFORE MOUNTING, MAKE SURE THERE ARE NO VISIBLE DEFECTS ON THE UNIT, SUCH AS MECHANICAL DAMAGES, MISSING PARTS, IMPELLER JAMMING ETC.**



**WHEN MOUNTING THE UNIT, IT IS NECESSARY TO PROVIDE PROTECTION AGAINST CONTACT WITH HAZARDOUS ZONES OF THE FAN BY INSTALLING AIR DUCTS OF THE NECESSARY LENGTHS AND PROTECTIVE GRILLES.**

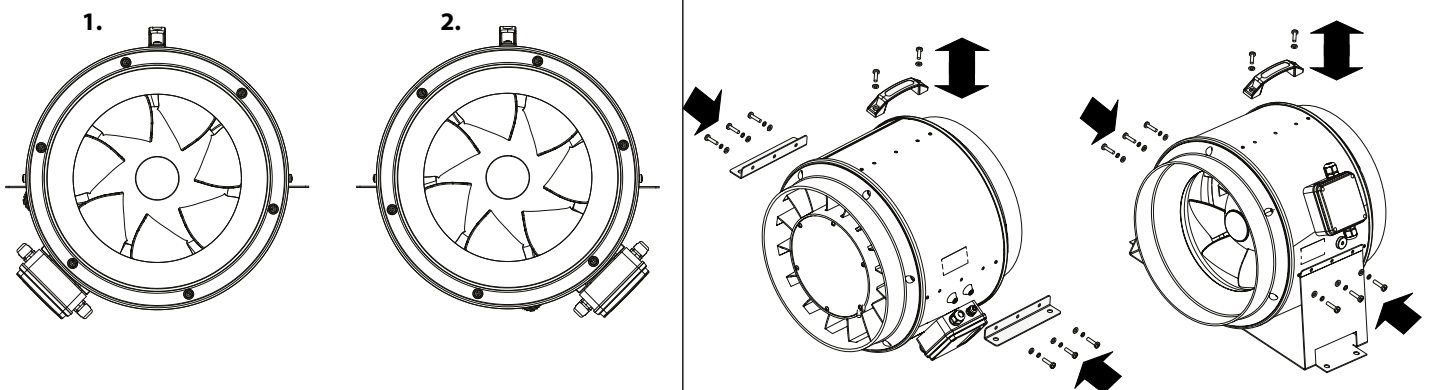


**MOUNTING MUST BE PERFORMED BY QUALIFIED SPECIALISTS ONLY, PROPERLY TRAINED AND QUALIFIED TO INSTALL AND MAINTAIN VENTILATION EQUIPMENT.**

The unit is intended for mounting with round air ducts. The fan is installed between the air ducts. The fan casing is equipped with fixing brackets for suspended mounting or for mounting on a horizontal or vertical surface. While installing the unit ensure convenient access for subsequent maintenance and repair. Fasteners for fan mounting are not included in the delivery set and should be ordered separately. While choosing fasteners consider the material of the mounting surface as well as the weight of the unit, refer to the Technical data section. Fasteners for unit mounting should be selected by a service technician.

The unit can be mounted in two operation positions, which makes mounting easier. For this, dismantle the fan handle first or set it to another position.

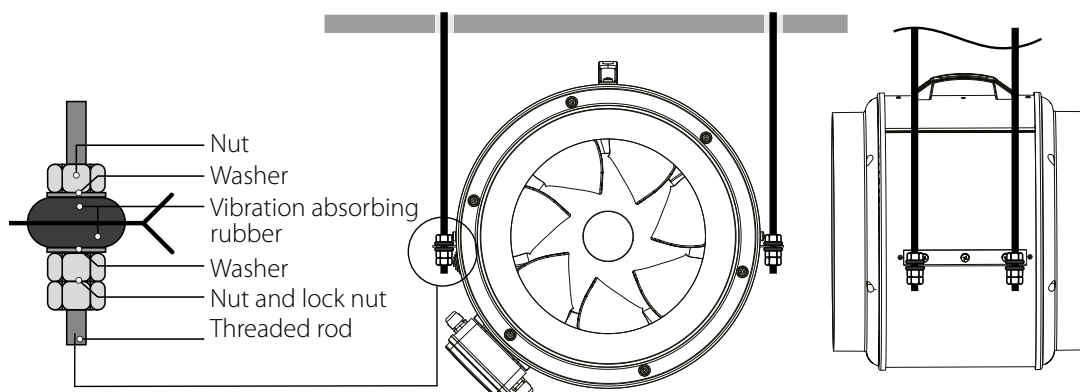
After choosing one of two positions, securely mount the brackets to the fan.



### SUSPENDED MOUNTING

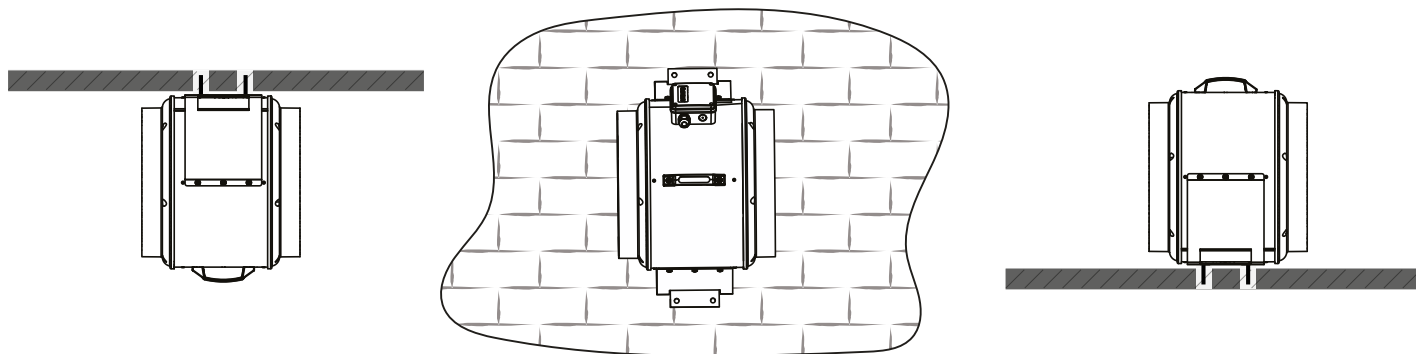
Install the fan on the threaded rods (not included in the delivery set).

**WARNING! When mounting the fan on threaded rods, it is necessary to provide protection of the nuts against self-loosening.**



## SURFACE MOUNTING

Fasten the fan to the surface using the screws with the dowels of appropriate size (not included in the delivery set). Make sure the fan is fastened securely.



Connect the air ducts of the appropriate diameter to the fan (connections must be airtight).

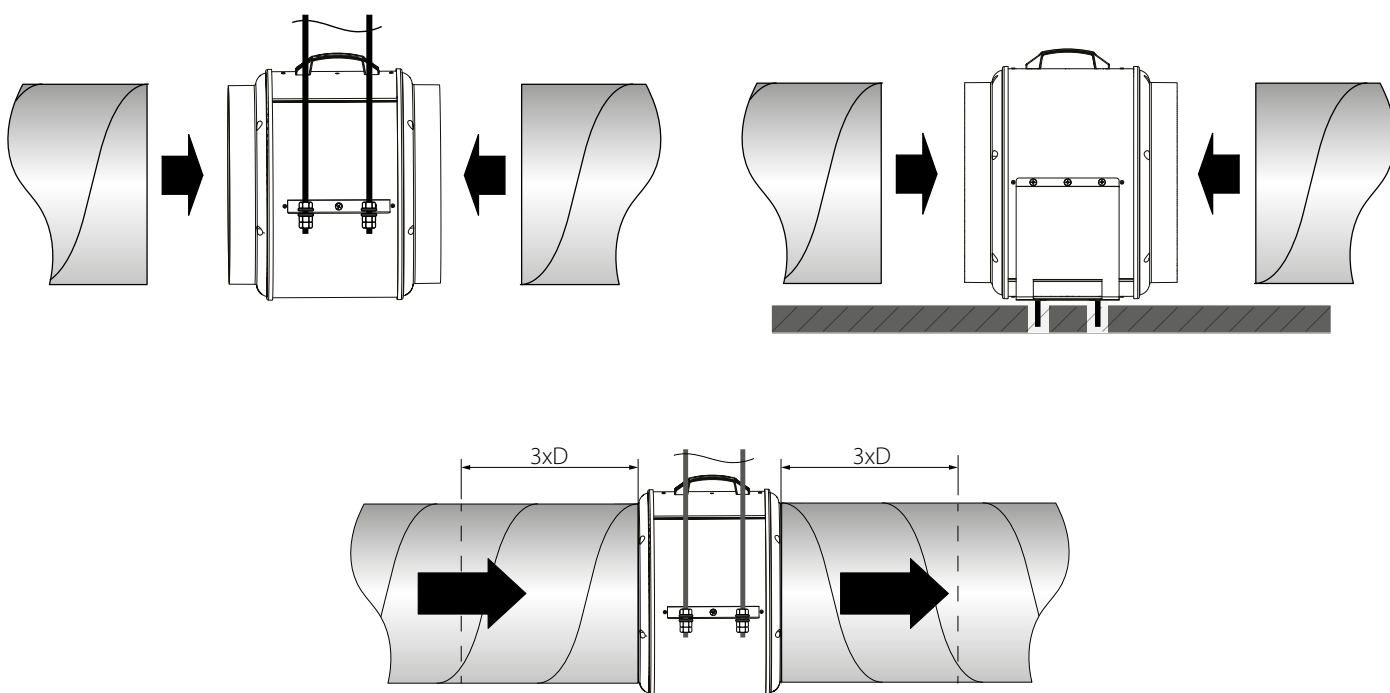
Air motion in the system must be in compliance with the direction of the arrow on the fan label.

To attain the best performance of the fan and to minimise turbulence-induced air pressure losses, it is recommended to connect the straight air duct section to the spigots on both sides of the unit while mounting.

Minimum recommended straight air duct section length is equal to 3 fan diameters (see the "Technical data" section).

If the air ducts are shorter than 1 m or not connected, the internal parts of the unit must be protected from ingress of foreign objects.

To prevent uncontrollable access to the fans, the spigots may be covered with a protecting grille or other protecting device with mesh width not more than 12.5 mm.



## ELECTRONICS OPERATION ALGORITHM

The EC 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 turning the fan on and off, smoothly regulating the fan motor rotation speed (air flow) in the range from minimum to maximum speed.

Rotations are controlled from the minimum (extreme right position) to the maximum (extreme left position).

When rotating clockwise, the rotations increase.

- DIP switch in EXT position. The control signal is set by the S1 external control unit.

## CONNECTION TO POWER MAINS



**POWER OFF THE POWER SUPPLY PRIOR TO ANY OPERATIONS WITH THE UNIT.  
THE UNIT MUST BE CONNECTED TO POWER SUPPLY BY A QUALIFIED ELECTRICIAN.  
THE RATED ELECTRICAL PARAMETERS OF THE UNIT ARE GIVEN ON THE  
MANUFACTURER'S LABEL.**

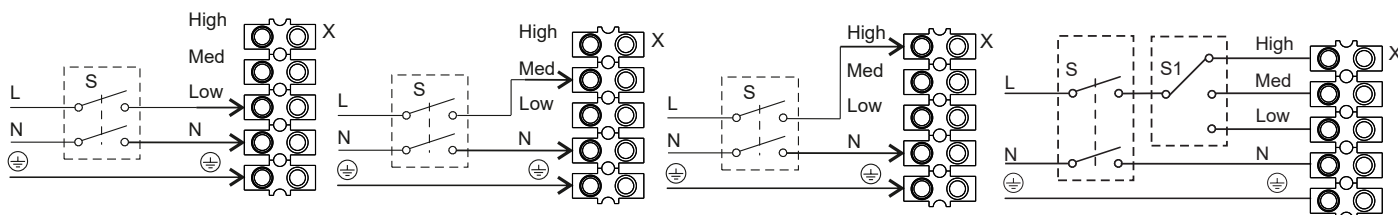


**ANY TAMPERING WITH THE INTERNAL CONNECTIONS IS PROHIBITED  
AND WILL VOID THE WARRANTY.**

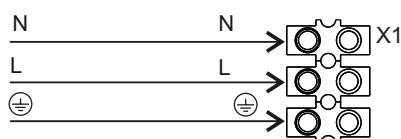
The unit is designed for connection to power mains with the parameters specified in the "Technical data" section. The connection must be made using durable, insulated and heat-resistant conductors (cables, wires). The actual wire cross section selection must be based on the maximum load current, maximum conductor temperature depending on the wire type, insulation, length and installation method. The fan connection shall be made on the terminal block mounted inside the terminal box in strict accordance with the wiring diagram and terminal designations. The external power input must be equipped with a QF automatic circuit breaker built into the stationary wiring to open the circuit in the event of overload or short-circuit. The position of the external circuit breaker must ensure free access for quick unit power-off. The automatic circuit breaker rated current must exceed the ventilator current consumption, see the Technical data section or the unit label. It is recommended to select the rated current of the circuit breaker from the standard series, following the maximum current of the connected unit. The circuit breaker is not included in the delivery set and can be ordered separately.

### WIRING DIAGRAM

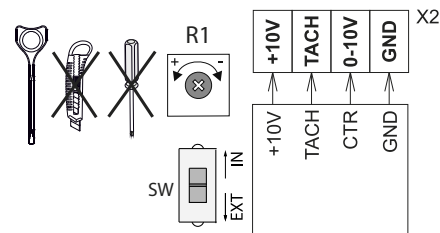
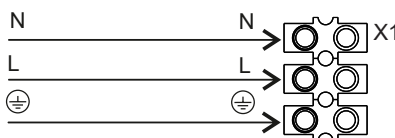
#### Boost ...



#### Boost ... V



#### Boost ... EC



High — high speed  
Med — medium speed  
Low — low speed  
N — neutral  
L — line  
⊕ — grounding  
S — ON/OFF switch  
S1 — switch  
QF — automatic circuit breaker  
R1 — internal speed controller  
SW — DIP switch

## TECHNICAL MAINTENANCE



**DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY MAINTENANCE OPERATIONS!**

**MAKE SURE THE UNIT IS DISCONNECTED FROM POWER MAINS BEFORE REMOVING THE PROTECTION.**

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

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

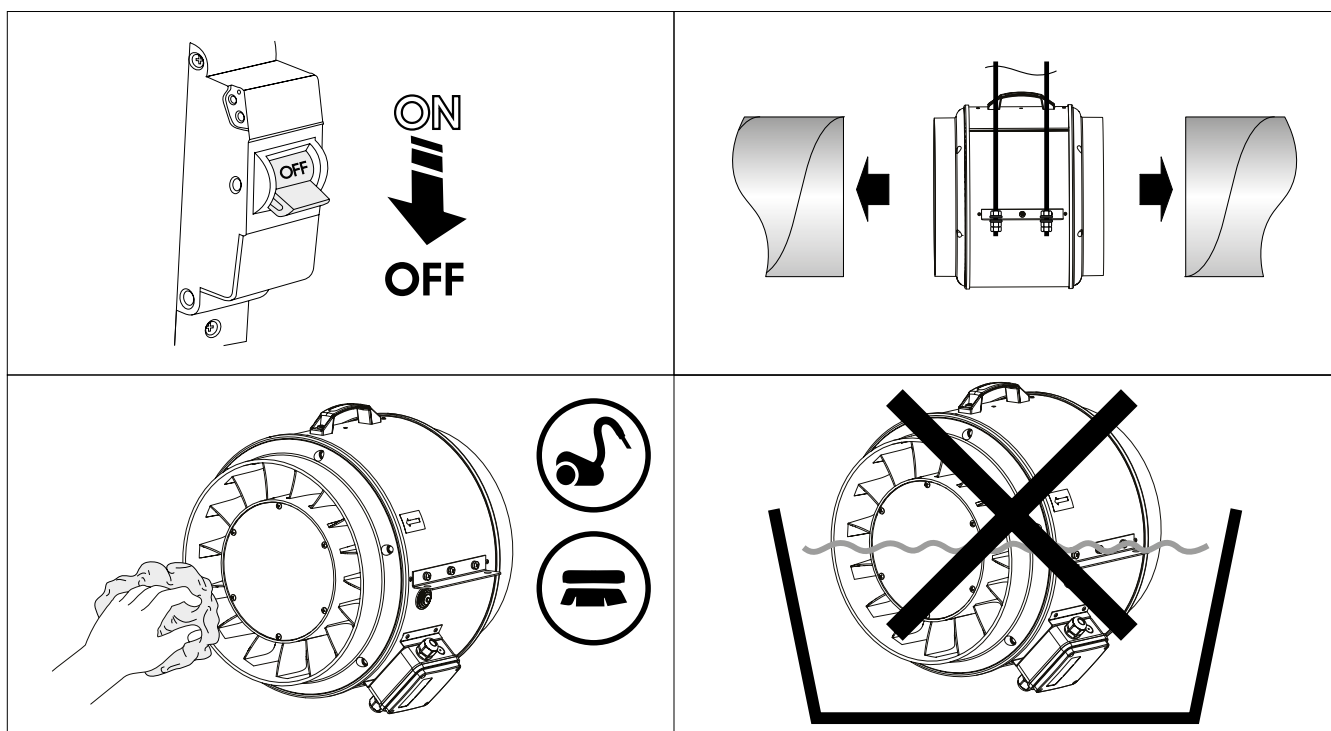
Disconnect the air ducts from the fan.

Clean the fans with a soft brush, cloth, vacuum cleaner or compressed air.

Do not use water, aggressive solvents, or sharp objects as they may damage the impeller.

It is forbidden to remove or change the location of the balancers on the impeller, as this can lead to increased level of vibration, noise and reduce the service life of the unit.

During technical maintenance, make sure that there are no visible defects on the unit, the mounting brackets are securely fastened to the fan casing and the unit is securely mounted.



## TROUBLESHOOTING

| Problem                                                          | Possible reasons                                                                                           | Troubleshooting                                                                                      |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| The fan(s) do(es) not start.                                     | No power supply.                                                                                           | Make sure the power supply line is connected correctly, otherwise troubleshoot the connection error. |
|                                                                  | Jammed motor.                                                                                              | Disconnect the fan from power supply. Troubleshoot the motor jamming. Restart the fan.               |
|                                                                  | The fan has overheated.                                                                                    | Disconnect the fan from power supply. Eliminate the cause of overheating. Restart the fan.           |
| Automatic circuit breaker tripping following the fan turning on. | High current consumption due to short circuit in power line.                                               | Turn the fan off. Contact the Seller.                                                                |
| Noise, vibration.                                                | The fan impeller is soiled.                                                                                | Clean the impellers.                                                                                 |
|                                                                  | The fan or casing screw connection is loose.                                                               | Tighten the screw connection of the fan or the casing against stop.                                  |
|                                                                  | The ventilation system components (air ducts, diffusers, louvre shutters, grilles) are clogged or damaged. | Clean or replace the ventilation system components (air ducts, diffusers, louvre shutters, grilles). |

## 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.

Vents US 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 Vents US 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, Vents US 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 Vents US), 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.

**VENTS US OBLIGATION TO REPAIR OR REPLACE, AT VENTS US OPTION, SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. VENTS US 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:

Vents-US  
400 Murray Road, Cincinnati, OH 45217, USA  
Tel: 1-888-640-0925, 513-583-5786, Fax: 513-268-4597  
E-mail: support@ventsus.com  
www.vents-us.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**



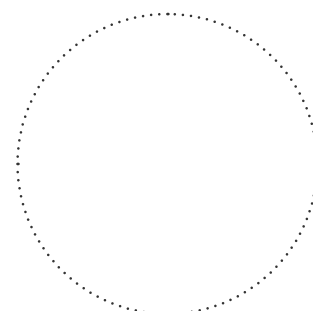
**USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP**

## CERTIFICATE OF ACCEPTANCE

|                                  |                       |
|----------------------------------|-----------------------|
| <b>Unit Type</b>                 | Inline mixed-flow fan |
| <b>Model</b>                     |                       |
| <b>Serial Number</b>             |                       |
| <b>Manufacture Date</b>          |                       |
| <b>Quality Inspector's Stamp</b> |                       |

## SELLER INFORMATION

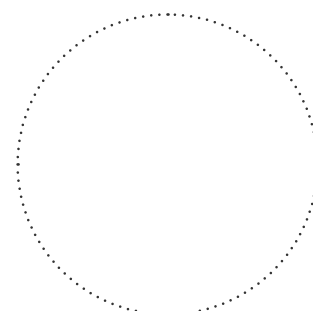
|                                                                                                                                       |  |
|---------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Seller</b>                                                                                                                         |  |
| <b>Address</b>                                                                                                                        |  |
| <b>Phone Number</b>                                                                                                                   |  |
| <b>E-mail</b>                                                                                                                         |  |
| <b>Purchase Date</b>                                                                                                                  |  |
| This is to certify acceptance of the complete unit delivery with the user's manual. The warranty terms are acknowledged and accepted. |  |
| <b>Customer's Signature</b>                                                                                                           |  |



Seller's Stamp

## INSTALLATION CERTIFICATE

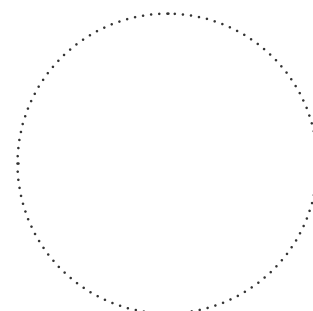
|                                                                                                                                                                                                                                |                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| The _____ unit is installed pursuant to the requirements stated in the present user's manual.                                                                                                                                  |                   |
| <b>Company name</b>                                                                                                                                                                                                            |                   |
| <b>Address</b>                                                                                                                                                                                                                 |                   |
| <b>Phone Number</b>                                                                                                                                                                                                            |                   |
| <b>Installation Technician's Full Name</b>                                                                                                                                                                                     |                   |
| <b>Installation Date:</b>                                                                                                                                                                                                      | <b>Signature:</b> |
| The unit has been installed in accordance with the provisions of all the applicable local and national construction, electrical and technical codes and standards. The unit operates normally as intended by the manufacturer. |                   |
| <b>Signature:</b>                                                                                                                                                                                                              |                   |



Installation Stamp

## WARRANTY CARD

|                         |                       |
|-------------------------|-----------------------|
| <b>Unit Type</b>        | Inline mixed-flow fan |
| <b>Model</b>            |                       |
| <b>Serial Number</b>    |                       |
| <b>Manufacture Date</b> |                       |
| <b>Purchase Date</b>    |                       |
| <b>Warranty Period</b>  |                       |
| <b>Seller</b>           |                       |



Seller's Stamp



