

INLINE CENTRIFUGAL FAN



Box EC

EN

USER'S MANUAL

CONTENTS

Safety requirements.....	3
Purpose.....	5
Delivery set.....	5
Designation key.....	5
Technical data.....	6
Installation and set-up.....	8
Connection to power mains	9
Technical maintenance.....	10
Troubleshooting.....	11
Storage and transportation regulations.....	11
Manufacturer's warranty	12
Certificate of acceptance	13
Seller information	13
Installation certificate.....	13
Warranty card	13

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 Box 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.

The information in this user's manual is 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.

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SAFETY REQUIREMENTS

- Please read the user's manual carefully prior to installing and operating 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.
- The warnings contained in the user's manual must be considered most seriously since they contain vital personal safety information.
- Failure to follow the rules and safety precautions noted in this user's manual may result in an injury or unit damage.
- After a careful reading of the manual, keep it for the entire service life of the unit.
- While transferring the unit control, the user's manual must be turned over to the receiving operator.

UNIT INSTALLATION AND OPERATION SAFETY PRECAUTIONS



- Disconnect the unit from power mains prior to any installation operations.



- Unpack the unit with care.



- The unit must be grounded!



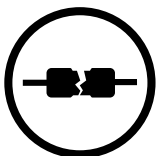
- While installing the unit, follow the safety regulations specific to the use of electric tools.



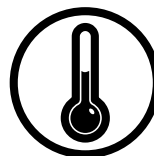
- Do not change the power cable length at your own discretion.
- Do not bend the power cable.
- Avoid damaging the power cable.
- Do not put any foreign objects on the power cable.



- Do not lay the power cable of the unit in close proximity to heating equipment.



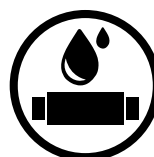
- Do not use damaged equipment or cables when connecting the unit to power mains.



- Do not operate the unit outside the temperature range stated in the user's manual.
- Do not operate the unit in aggressive or explosive environments.



- Do not touch the unit controls with wet hands.
- Do not carry out the installation and maintenance operations with wet hands.



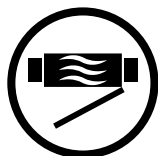
- Do not wash the unit with water.
- Protect the electric parts of the unit against ingress of water.



- Do not allow children to operate the unit.



- Do not store any explosive or highly flammable substances in close proximity to the unit.



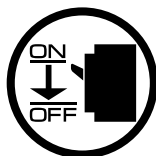
- Do not open the unit during operation.



- Do not block the air duct when the unit is switched on.



- Do not sit on the unit and avoid placing foreign objects on it.



- Disconnect the unit from power mains prior to any technical maintenance.



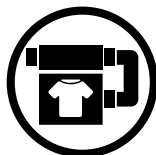
- When the unit generates unusual sounds, odour, or emits smoke, disconnect it from power supply and contact the Seller.



- Do not direct the air flow produced by the unit towards open flame or ignition sources.



- In case of continuous operation of the unit, periodically check the security of mounting.




- Use the unit only for its intended purpose.



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

PURPOSE



THE UNIT SHOULD NOT BE OPERATED BY CHILDREN OR PERSONS WITH REDUCED PHYSICAL, MENTAL, OR SENSORY CAPACITIES, OR THOSE WITHOUT THE APPROPRIATE TRAINING.

THE UNIT MUST BE INSTALLED AND CONNECTED ONLY BY PROPERLY QUALIFIED PERSONNEL AFTER THE APPROPRIATE BRIEFING.

THE CHOICE OF UNIT INSTALLATION LOCATION MUST PREVENT UNAUTHORIZED ACCESS BY UNATTENDED CHILDREN.

The inline centrifugal fan is designed for supply and exhaust ventilation systems of commercial, office and other public or industrial premises with high requirements to the noise level and limited space for mounting.

The unit is rated for continuous operation.

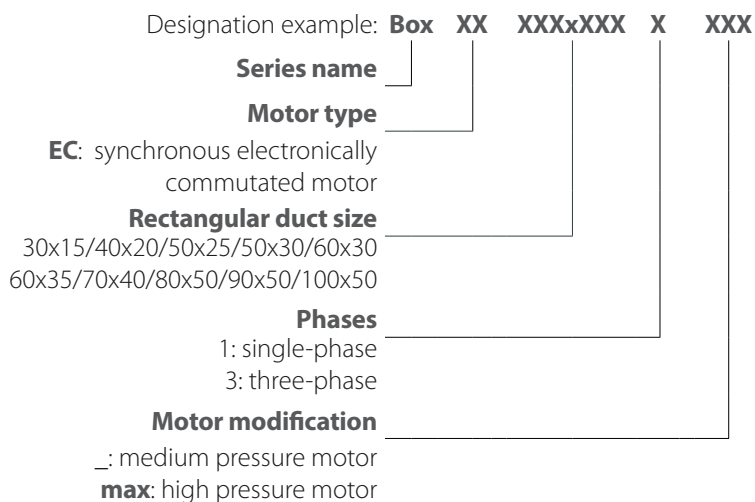
The unit is a component part and is not designed for stand-alone operation.

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

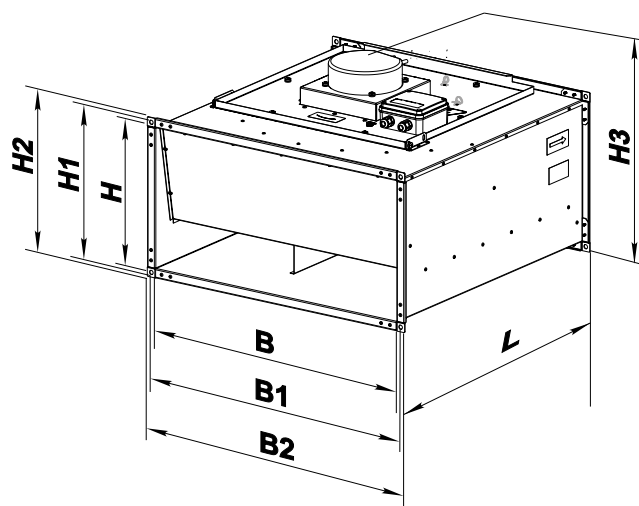
The unit is designed for indoor application with the ambient temperature ranging from 0 °C up to +45 °C and relative humidity up to 80 %. The unit is rated as a Class I electrical appliance.

Hazardous parts access and water ingress protection rating: for the unit connected to the air ducts – IPX4.

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

	Box EC 30x15-1	Box EC 30x15-1 max	Box EC 40x20-1	Box EC 40x20-1 max	Box EC 50x25-1	Box EC 50x25-1 max	Box EC 50x30-1 max	Box EC 60x30-1
Unit voltage [V/50 (60) Hz]	1~230							
Power [W]	97	101	91	192	252	555	445	326
Current [A]	0.73	0.80	0.69	1.43	1.85	4,10	3.33	2.45
Maximum air flow [m ³ /h]	565	665	810	1190	1590	2480	3230	2545
RPM [min ⁻¹]	3300	3500	2470	3010	2500	3100	3100	2000
Sound pressure level at 3 m distance [dBA]	44	46	43	47	45	51	51	48
Transported air temperature [°C]	-25...+50							
Ingress protection rating	IPX4							

	Box EC 60x35-1	Box EC 60x35-3 max	Box EC 70x40-1	Box EC 70x40-3 max	Box EC 80x50-3	Box EC 80x50-3 max	Box EC 90x50-3 max	Box EC 100x50-3 max
Unit voltage [V/50 (60) Hz]	1~230	3~400	1~230	3~400	3~400	3~400	3~400	3~400
Power [W]	361	1308	795	2748	2025	2925	3429	3429
Current [A]	2.62	2.35	3.48	2.80	2.01	3.05	5.00	5.00
Maximum air flow [m ³ /h]	2815	4290	5710	6810	8395	8535	11190	11190
RPM [min ⁻¹]	2000	3160	1400	2530	1470	2400	1800	1800
Sound pressure level at 3 m distance [dBA]	49	55	53	57	60	63	66	66
Transported air temperature [°C]	-25...+50							
Ingress protection rating	IPX4							



Overall dimensions

Model	Dimensions [mm]								Weight [kg]
	B	B1	B2	H	H1	H2	H3	L	
Box EC 30x15-1	300	320	340	150	170	190	228	350	5.5
Box EC 30x15-1 max	300	320	340	150	170	190	228	350	6.0
Box EC 40x20-1	400	420	440	200	220	240	278	440	8.3
Box EC 40x20-1 max	400	420	440	200	220	240	278	440	10.0
Box EC 50x25-1	500	520	540	250	270	290	328	530	15.7
Box EC 50x25-1 max	500	520	540	250	270	290	328	530	17.9
Box EC 50x30-1 max	500	520	540	300	320	340	410	530	18.7
Box EC 60x30-1	600	620	640	300	320	340	407	650	24.1
Box EC 60x35-1	600	620	640	350	370	390	457	650	25.2
Box EC 60x35-3 max	600	620	640	350	370	390	512	650	36.0
Box EC 70x40-1	700	720	740	400	420	440	496	750	42.2
Box EC 70x40-3 max	700	720	740	400	420	440	555	750	43.0
Box EC 80x50-3	800	820	840	500	520	540	614	850	62.3
Box EC 80x50-3 max	800	820	840	500	520	540	670	850	54.3
Box EC 90x50-3 max	900	920	940	500	520	540	656	950	72.0
Box EC 100x50-3 max	1000	1020	1040	500	520	540	656	950	77.0

INSTALLATION AND SET-UP

BEFORE MOUNTING MAKE SURE THE CASING DOES NOT CONTAIN ANY FOREIGN OBJECTS (E.G. FOIL, PAPER).



WHILE INSTALLING THE UNIT ENSURE CONVENIENT ACCESS FOR SUBSEQUENT MAINTENANCE AND REPAIR.

Check the fan power cables for integrity and make sure the impeller has smooth rotation prior to mounting.

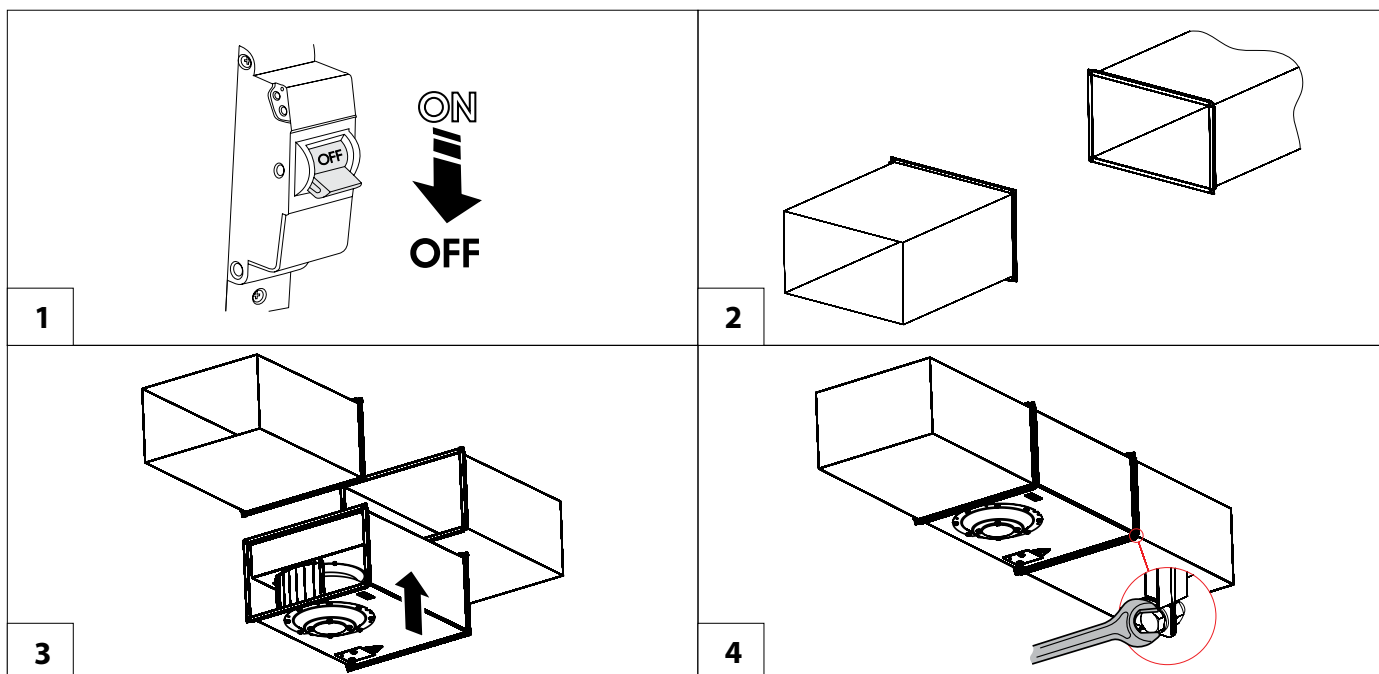
The fans are mounted into the rectangular ducts and require no special fixing in case of direct connection.

Connect the fan to air ducts with M8 bolts and nuts.

The fans can be mounted in any position with respect to the airflow direction which is indicated with a pointer on the casing.

Access for the fan maintenance shall be provided.

The casing is equipped with a removable access cover for maintenance purposes.



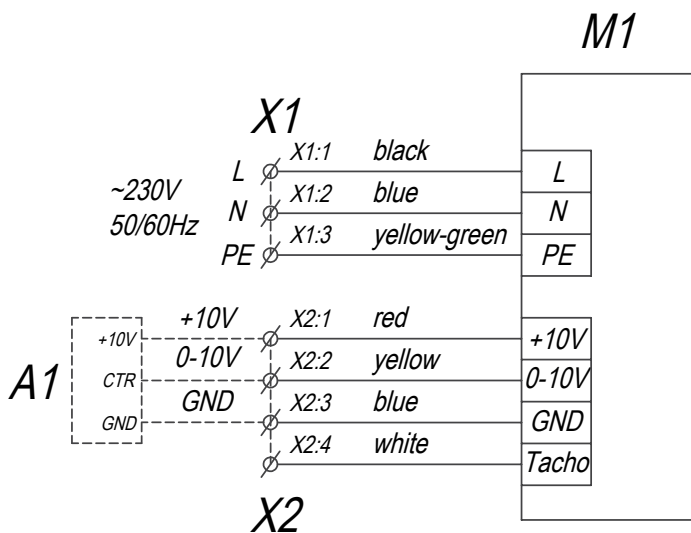
CONNECTION TO POWER MAINS



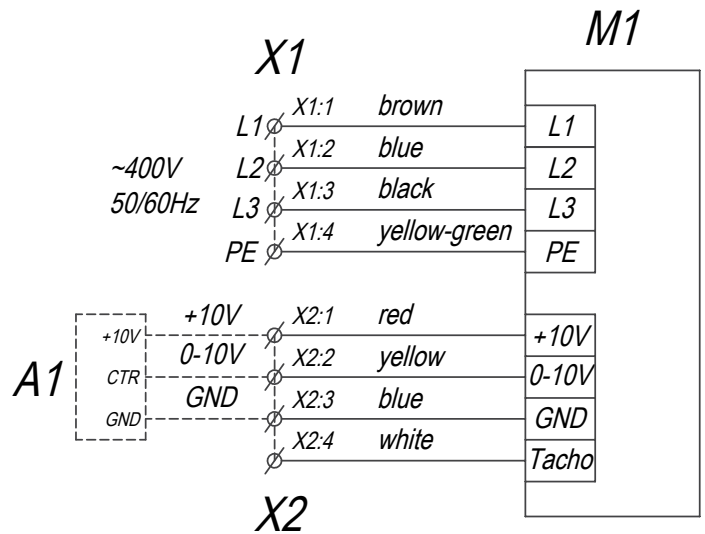
DISCONNECT THE POWER SUPPLY PRIOR TO ANY OPERATIONS WITH THE UNIT.
CONNECTION OF THE UNIT TO POWER MAINS IS ALLOWED BY A QUALIFIED ELECTRICIAN WITH A WORK PERMIT FOR THE ELECTRIC UNITS UP TO 1000 V AFTER CAREFUL READING OF THE PRESENT USER'S MANUAL. THE RATED ELECTRICAL PARAMETERS OF THE UNIT ARE GIVEN ON THE MANUFACTURER'S LABEL.

- The unit is rated for connection to 1~200-277 B/50(60) Гц/3~380-480 B/50(60) Гц power mains.
- The unit must be connected to power mains using insulated electric 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 external power input must be equipped with an automatic circuit breaker built into the stationary wiring to open the electric circuit in case of overload or short-circuit. The circuit breaker installation place must provide quick access for emergency shutdown of the unit. The trip current of the automatic circuit breaker **QF** must exceed the maximum current consumption of the unit (refer to the technical data table). The recommended trip current of the circuit breaker is the next current in the standard trip current row following the maximum current of the connected unit. The automatic circuit breaker is not included in the delivery set.

Wiring diagram of the fan with a single-phase motor



Wiring diagram of the fan with a three-phase motor



TECHNICAL MAINTENANCE



DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY MAINTENANCE OPERATIONS!

The technical maintenance includes periodic cleaning of the surfaces from accumulated dust and dirt.

Use a soft brush or compressed air to remove dust from metal surfaces of the fan. Use a vacuum cleaner to remove dust from the sound insulating surface.

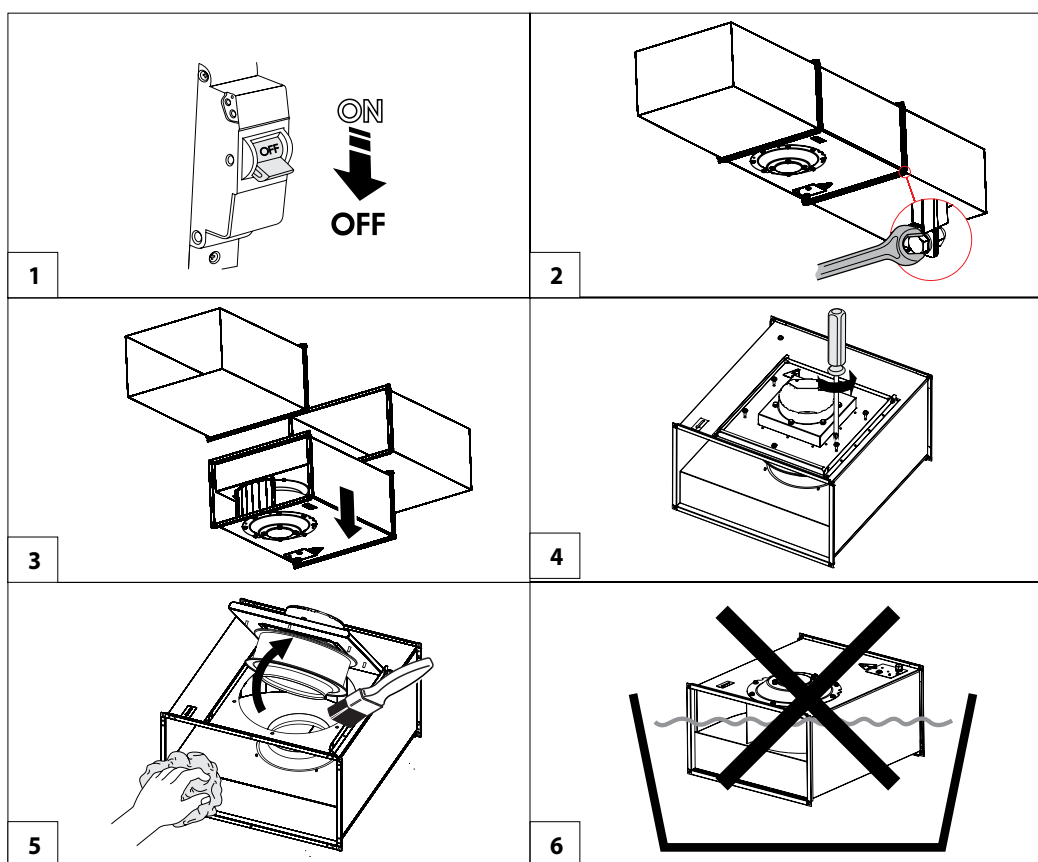
The impeller blades require thorough cleaning once in 6 months.

Detach air ducts from the fan before starting maintenance works.

Clean the impeller blades with a soft cloth wetted in mild water detergent solution. Avoid liquid dripping on the motor.

Wipe the fan surfaces dry after cleaning.

While cleaning the fan make sure the balance counterweights are not shifted and the impeller is not misaligned.



TROUBLESHOOTING

Problem	Possible reasons	Troubleshooting
The fan does not run.	No power supply.	Check the automatic circuit breaker. Check the electric connections.
Noisy operation.	Impeller imbalance.	Clean the impeller.

STORAGE AND TRANSPORTATION REGULATIONS

- Store the unit in the manufacturer's original packaging box in a dry closed ventilated premise with temperature range from +5 °C to +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.

MANUFACTURER'S WARRANTY

The product is in compliance with EU norms and standards on low voltage guidelines and electromagnetic compatibility. We hereby declare that the product complies with the provisions of Electromagnetic Compatibility (EMC) Directive 2014/30/EU of the European Parliament and of the Council, Low Voltage Directive (LVD) 2014/35/EU of the European Parliament and of the Council and CE-marking Council Directive 93/68/EEC. This certificate is issued following test carried out on samples of the product referred to above.

The manufacturer hereby warrants normal operation of the unit for 24 months after the retail sale date provided the user's observance of the transportation, storage, installation, and operation regulations. Should any malfunctions occur in the course of the unit operation through the Manufacturer's fault during the guaranteed period of operation, the user is entitled to get all the faults eliminated by the manufacturer by means of warranty repair at the factory free of charge. The warranty repair includes work specific to elimination of faults in the unit operation to ensure its intended use by the user within the guaranteed period of operation. The faults are eliminated by means of replacement or repair of the unit components or a specific part of such unit component.

The warranty repair does not include:

- routine technical maintenance
- unit installation/dismantling
- unit setup

To benefit from warranty repair, the user must provide the unit, the user's manual with the purchase date stamp, and the payment paperwork certifying the purchase. The unit model must comply with the one stated in the user's manual. Contact the Seller for warranty service.

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

- User's failure to submit the unit with the entire delivery package as stated in the user's manual including submission with missing component parts previously dismantled by the user.
- Mismatch of the unit model and the brand name with the information stated on the unit packaging and in the user's manual.
- User's failure to ensure timely technical maintenance of the unit.
- External damage to the unit casing (excluding external modifications as required for installation) and internal components caused by the user.
- Redesign or engineering changes to the unit.
- Replacement and use of any assemblies, parts and components not approved by the manufacturer.
- Unit misuse.
- Violation of the unit installation regulations by the user.
- Violation of the unit control regulations by the user.
- Unit connection to power mains with a voltage different from the one stated in the user's manual.
- Unit breakdown due to voltage surges in power mains.
- Discretionary repair of the unit by the user.
- Unit repair by any persons without the manufacturer's authorization.
- Expiration of the unit warranty period.
- Violation of the unit transportation regulations by the user.
- Violation of the unit storage regulations by the user.
- Wrongful actions against the unit committed by third parties.
- Unit breakdown due to circumstances of insuperable force (fire, flood, earthquake, war, hostilities of any kind, blockades).
- Missing seals if provided by the user's manual.
- Failure to submit the user's manual with the unit purchase date stamp.
- Missing payment paperwork certifying the unit purchase.



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



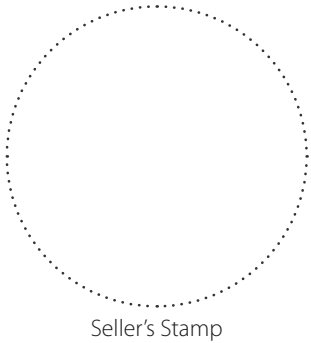
USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP.

CERTIFICATE OF ACCEPTANCE

Unit Type	Inline centrifugal fan
Model	Box EC _____
Serial Number	
Manufacture Date	
Quality Inspector's Stamp	

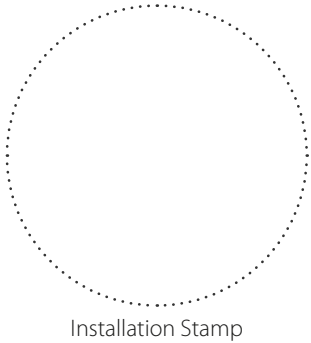
SELLER INFORMATION

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



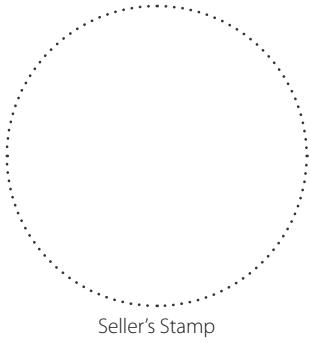
INSTALLATION CERTIFICATE

The Box EC _____ unit is installed pursuant to the requirements stated in the present user's manual.	
Company name	
Address	
Phone Number	
Installation Technician's Full Name	
Installation Date:	Signature:
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.	
Signature:	



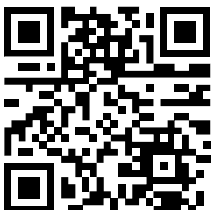
WARRANTY CARD

Unit Type	Inline centrifugal fan
Model	Box EC _____
Serial Number	
Manufacture Date	
Purchase Date	
Warranty Period	
Seller	





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