

SOUND-INSULATED SMOKE EXTRACTION FAN

Iso-VS

EN *USER'S MANUAL*

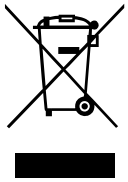
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CONTENTS

Purpose 4
Delivery set 4
Designation key 4
Technical data 5
Design and operating principle 11
Mounting and set-up 12
Connection to power mains 13
Commissioning 15
Technical maintenance 15
Troubleshooting 16
Storage and transportation regulations 16
Manufacturer's warranty 17
Certificate of acceptance 18
Seller information 18
Installation certificate 18
Warranty card 18

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 Iso-VS 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.

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.
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.
Do not install or use the product until all construction and finishing work has been completed in the room where it is to be installed.
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.

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 UNAUTHORISED ACCESS BY UNATTENDED CHILDREN.

The sound-insulated smoke extraction fan is is used in emergency exhaust ventilation systems for forced extraction of smoke, heated gases and combustion products, as well as in general exhaust ventilation systems in shopping centers, garages, warehouses, kitchens etc. where the temperature and noise level requirements and mounting space are restricted.
The fan is designed to extract smoke and air mixtures heated up to +400 °C for up to 120 minutes, and long-term operation with transported air temperature of up to +100 °C.
The fan is rated for continuous operation.
The fan is a component part and is not designed for independent operation.
Transported air must not contain any flammable or explosive mixtures or chemical vapors.

DELIVERY SET

NAME	NUMBER
Fan	1 pc.
Drain fitting	1 pc.
User's manual	1 pc.
Packing box	1 pc.

DESIGNATION KEY

Iso-VS 63 – 4 D/ 4 – U1 – 60Hz

Frequency
_ — 50 Hz (by default)
60Hz — 60 Hz

Climatic category
U1 – temperate climate
HL1 – cold climate
T1 – tropical climate
M1 – maritime moderately cold climate

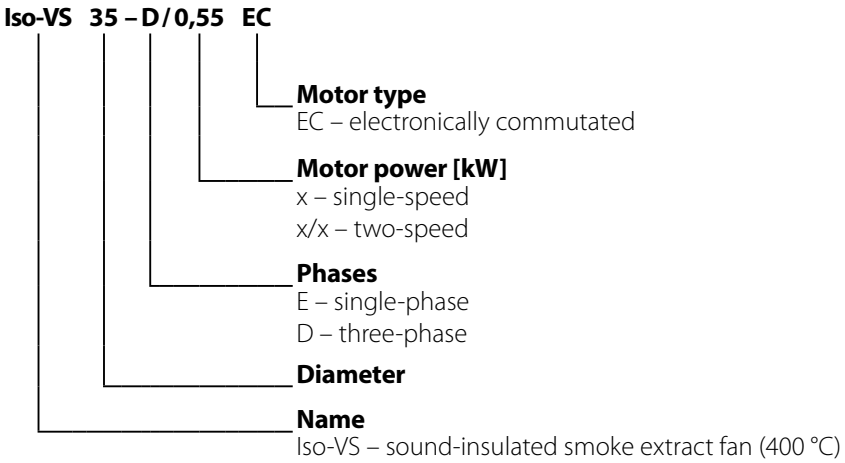
Motor power [kW]
x – single-speed
x/x – two-speed

Phases
E – single-phase
D – three-phase

Poles
Number of poles

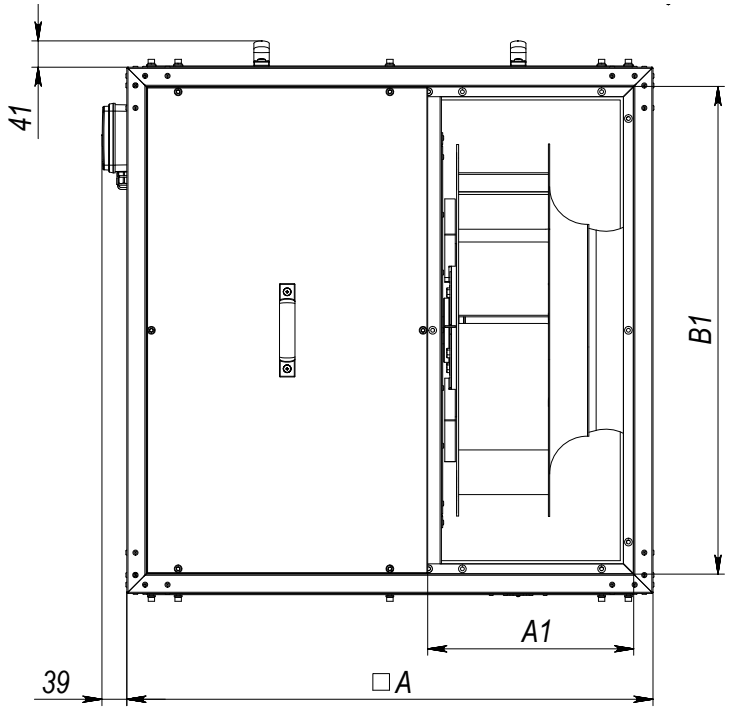
Diameter

Name
Iso-VS – sound-insulated smoke extract fan (400 °C)



TECHNICAL DATA

The fan is designed for extract ventilation of premises with air temperatures ranging from -25 °C up to +400 °C.
The fan is rated as a class I electric appliance.
The fan's design is constantly being improved, thus some models may slightly differ from those described in this manual.
The motor's ingress protection rating against access to hazardous parts and water ingress is IP55.
The fan's ingress protection rating against access to hazardous parts and water ingress is IPX4.



Model	Dimensions [mm]			Weight [kg]
	A	A1	B1	
Iso-VS 28-2D	450	190	390	39
Iso-VS 28-2E	450	190	390	39
Iso-VS 31-2D	500	200	440	50,6
Iso-VS 31-2E	500	200	440	50,6
Iso-VS 31-4D	500	200	440	46,5
Iso-VS 31-4E	500	200	440	46,5
Iso-VS 35-4D	600	225	540	61,6
Iso-VS 35-4E	600	225	540	61,6
Iso-VS 40-4D	670	252	610	72
Iso-VS 40-4E	670	252	610	65,7
Iso-VS 45-4D	700	282	640	76,7
Iso-VS 45-4E	700	282	640	76,7
Iso-VS 50-4D	820	321	760	111
Iso-VS 56-4D	900	365	840	144
Iso-VS 63-4D	1000	409	940	166
Iso-VS 71-4D	1075	456	1015	262
Iso-VS 71-6D	1075	456	1015	237
Iso-VS 80-6D	1175	506	1115	311

Fig. 1

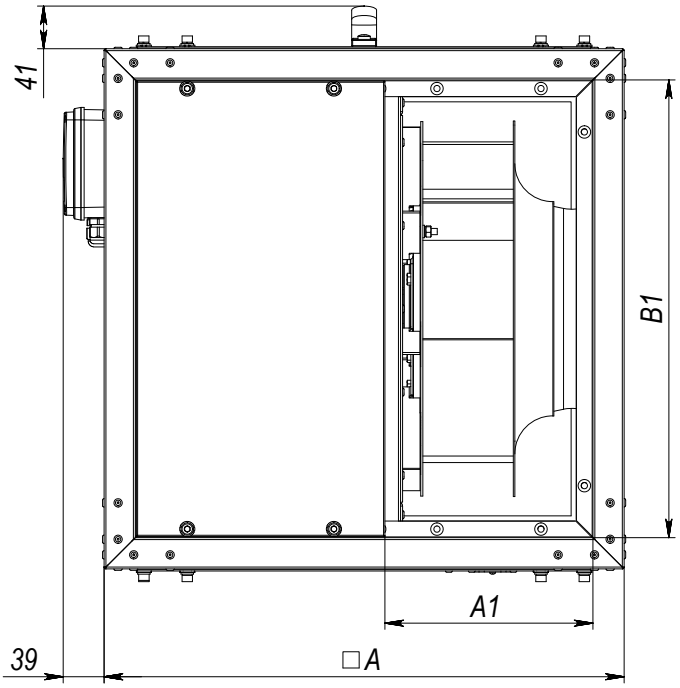
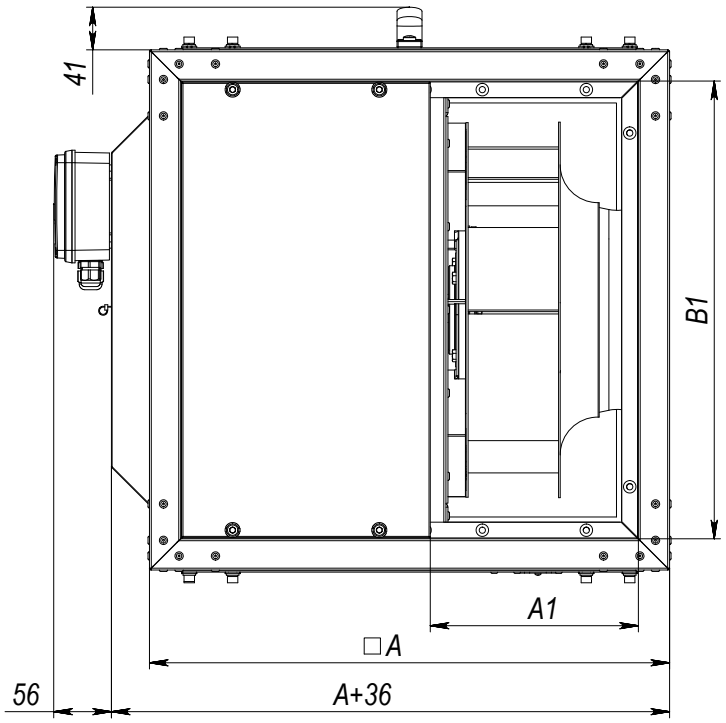


Fig. 2



Model	Dimensions [mm]			Weight [kg]	Fig.
	A	A1	B1		
Iso-VS 28-2D/1,1-60Hz	450	190	390	51	2
Iso-VS 28-2E/1,1-60Hz	450	190	390		
Iso-VS 31-2D/2,2-60Hz	500	200	440	60	
Iso-VS 31-2E/2,2-60Hz	500	200	440		
Iso-VS 31-4D/0,37-60Hz	500	200	440	46,5	1
Iso-VS 31-4E/0,37-60Hz	500	200	440		
Iso-VS 35-4D/0,75-60Hz	600	225	540	69	
Iso-VS 35-4E/0,75-60Hz	600	225	540		
Iso-VS 40-4D/0,75-60Hz	670	252	610	80	
Iso-VS 40-4E/0,75-60Hz	670	252	610		
Iso-VS 45-4D/1,5-60Hz	700	282	640	86	
Iso-VS 45-4E/1,5-60Hz	700	282	640		
Iso-VS 50-4D/3-60Hz	820	321	760	113	
Iso-VS 56-4D/4-60Hz	900	365	840	114	
Iso-VS 63-4D/7,5-60Hz	1000	409	940	213	
Iso-VS 63-6D/3-60Hz	1000	409	940	200	
Iso-VS 71-6D/4-60Hz	1075	456	1015	265	
Iso-VS 80-6D/7,5-60Hz	1175	506	1115	359	

Fig. 1

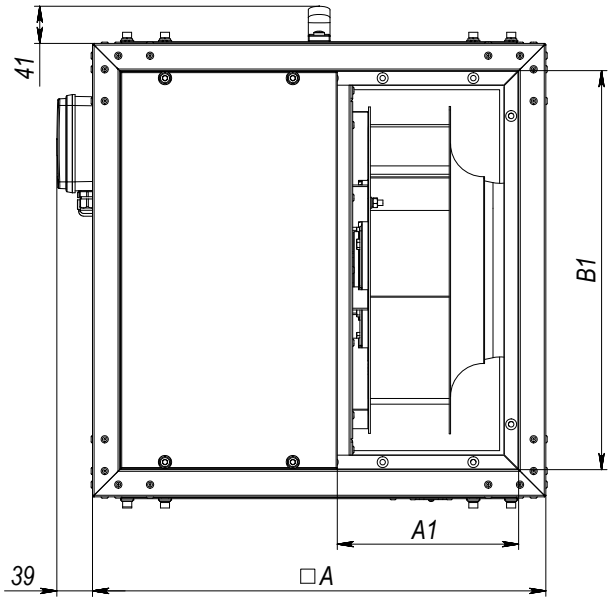
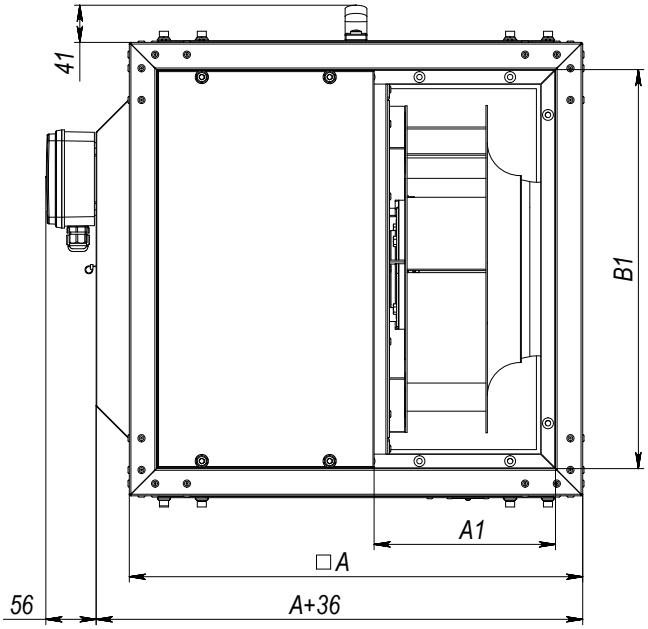


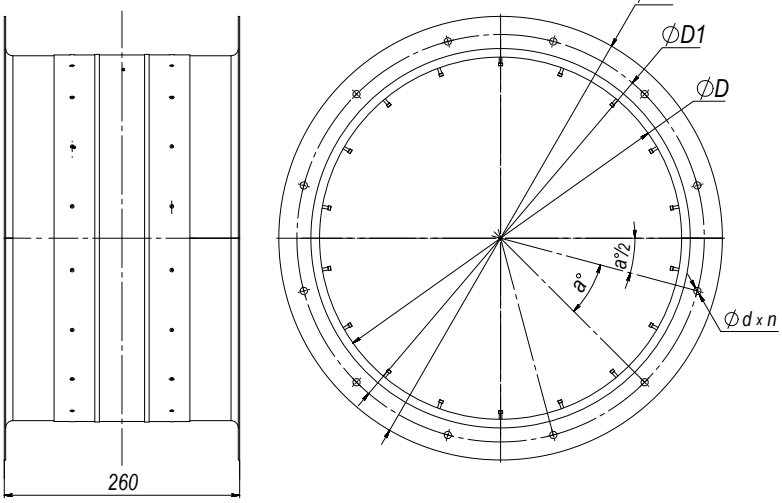
Fig. 2

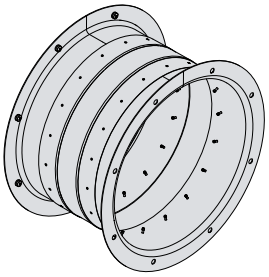


Model	Dimensions [mm]			Weight [kg]	Fig.
	A	A1	B1		
Iso-VS 31-E/0,55 EC	500	200	440	48	2
Iso-VS 35-E/0,55 EC	600	225	540	57	1
Iso-VS 40-E/0,55 EC	670	252	610	71	
Iso-VS 45-E/1,1 EC	700	282	640	84	
Iso-VS 50-E/1,5 EC	820	321	760	109	
Iso-VS 50-D/1,5 EC	820	321	760	106	
Iso-VS 56-D/3 EC	900	365	840	140	
Iso-VS 63-D/3 EC	1000	409	940	170	
Iso-VS 63-D/5,5 EC	1000	409	940	178	
Iso-VS 71-D/3 EC	1075	456	1015	250	
Iso-VS 80-D/5,5 EC	1175	506	1115	311	

FANS OPTIONS

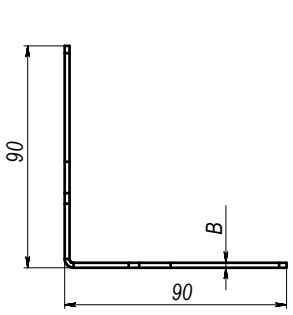
EVA ISO-VS

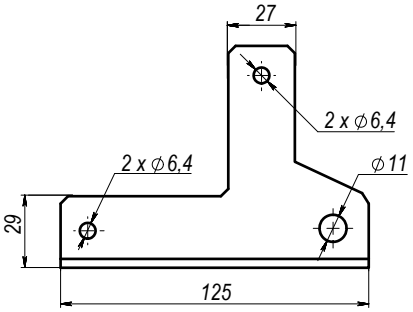


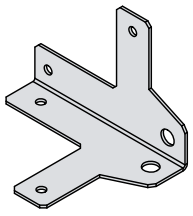


Model	Dimensions [mm]						Weight [kg]
	D	D1	D2	n	a	d	
EVA Iso-VS 315	315	365	405	6	60	8	3.79
EVA Iso-VS 355	355	405	445	6	60	8	4.25
EVA Iso-VS 400	400	450	490	12	30	8	4.76
EVA Iso-VS 450	450	500	540	12	30	8	5.34
EVA Iso-VS 500	500	560	600	12	30	12	6.12
EVA Iso-VS 560	560	620	660	12	30	12	6.83
EVA Iso-VS 630	630	690	730	12	30	12	7.66
EVA Iso-VS 710	710	770	810	16	22,5	12	8.6
EVA Iso-VS 800	800	860	900	16	22,5	12	9.67

MH ISO-VS

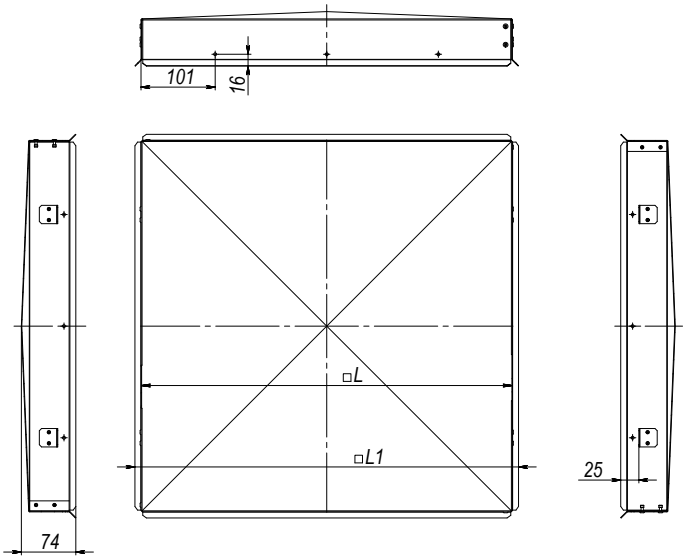


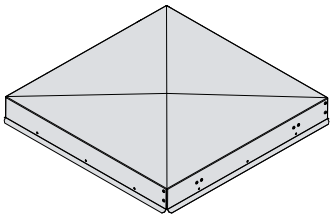




Model	Dimensions [mm]	Weight [kg]
	B	
MH Iso-VS 315...450	2	0.12
MH Iso-VS 500...800	3	0.21

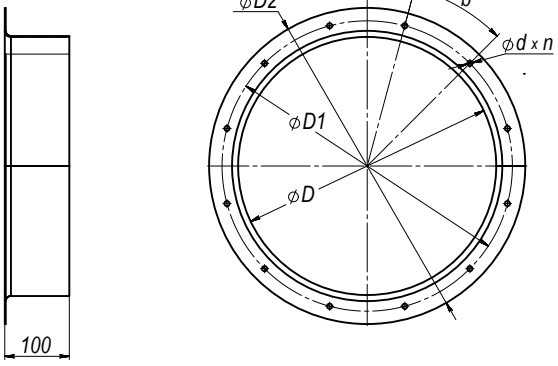
RSD ISO-VS

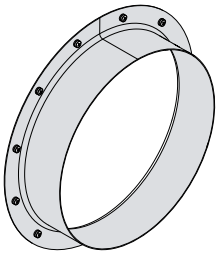




Model	Dimensions [mm]		Weight [kg]
	L	L1	
RSD Iso-VS 315	503	522	2.42
RSD Iso-VS 355	603	622	3.25
RSD Iso-VS 400	673	692	3.91
RSD Iso-VS 450	703	722	4.21
RSD Iso-VS 500	823	842	6.57
RSD Iso-VS 560	903	922	7.71
RSD Iso-VS 630	1003	1022	9.27
RSD Iso-VS 710	1078	1097	10.53
RSD Iso-VS 800	1178	1197	12.3

FR ISO-VS

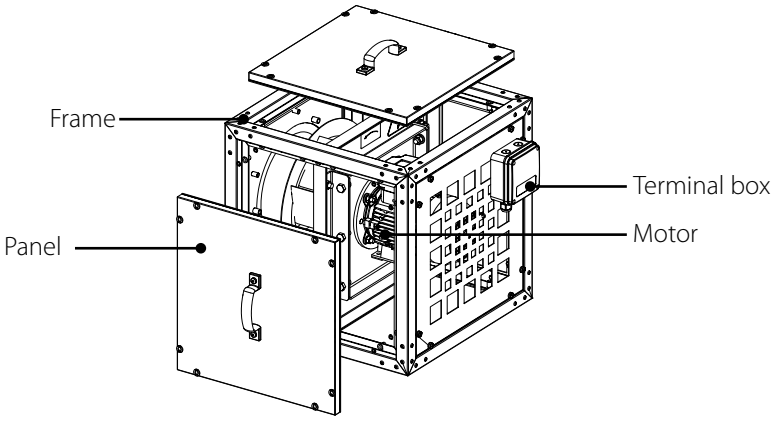


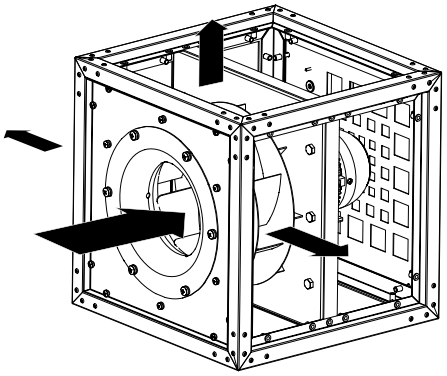


Model	Dimensions [mm]					a^0	b^0	Weight [kg]
	D	D1	D2	d	n			
FR Iso-VS 315	315	365	405	8	6	15	60	1.7
FR Iso-VS 355	355	405	445	8	6	15	60	1.9
FR Iso-VS 400	400	450	490	8	12	15	30	2.13
FR Iso-VS 450	450	500	540	8	12	15	30	2.39
FR Iso-VS 500	500	560	600	12	12	15	30	2.75
FR Iso-VS 560	560	620	660	12	12	15	30	3.06
FR Iso-VS 630	630	690	730	12	12	15	30	3.44
FR Iso-VS 710	710	770	810	12	16	11.25	22.5	3.86
FR Iso-VS 800	800	860	900	12	16	11.25	22.5	4.34

DESIGN AND OPERATING PRINCIPLE

The fan casing is made of galvanized sheet steel and removable heat and sound insulating double-layer panels, which are also made of galvanized steel. The galvanized steel casing with high corrosion resistance and heat-insulating material makes the fan suitable for outdoor mounting.
The Iso-VS fan is equipped with an asynchronous motor with an external rotor and a centrifugal impeller with backward curved blades.
The fan is specially designed to enable the position of the side panels to be changed to supply air in 90° directions.
The electric motor is installed outside the air flow.

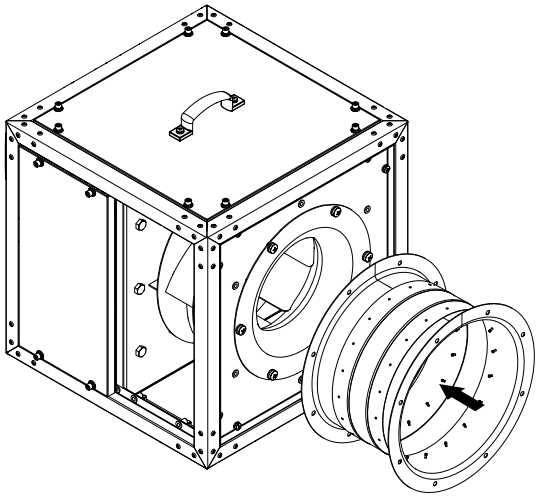




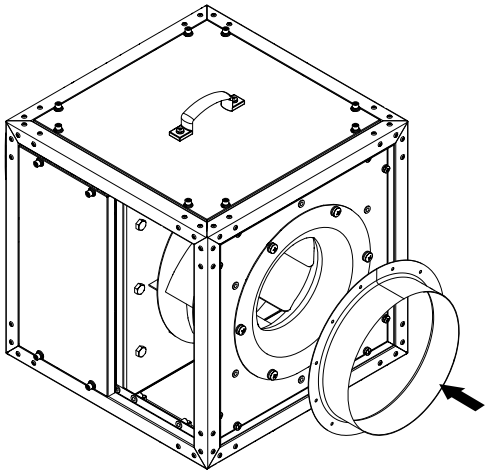
The connection spigots can have a round cross-section.
When connecting the fan to the air duct system, it is recommended to use the accessories listed in the user manual.
Connecting spigots and accessories are not included in the delivery set, they are ordered separately.

Connection of accessories

EVA Iso-VS



FR Iso-VS

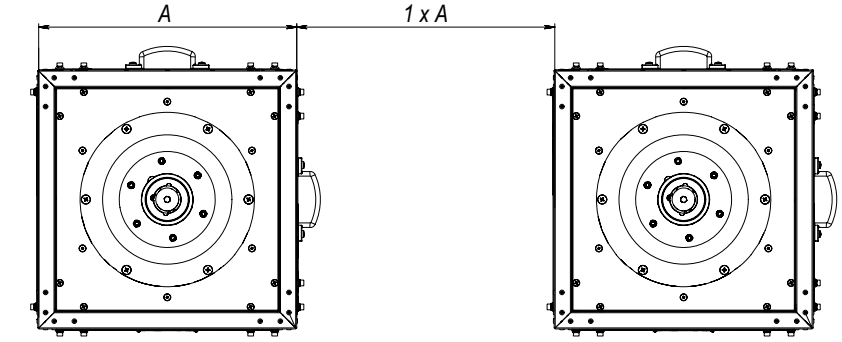


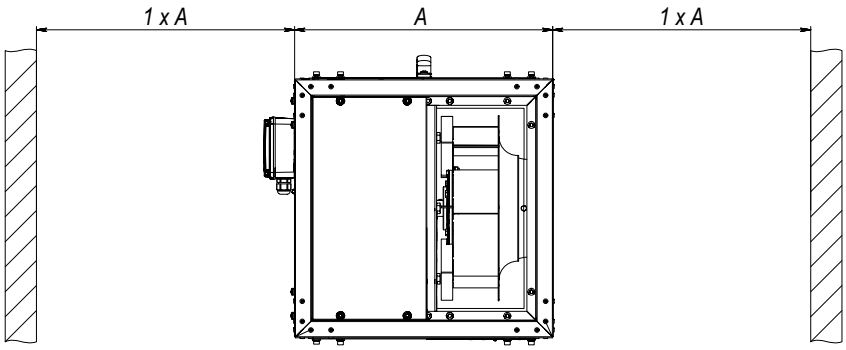
MOUNTING AND SET-UP

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

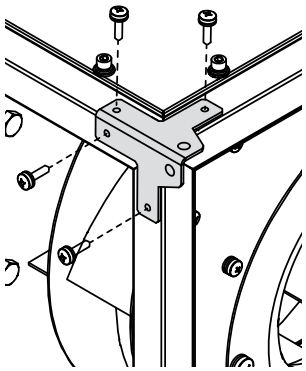
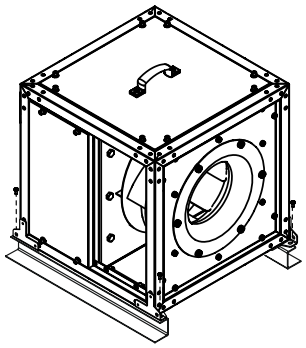
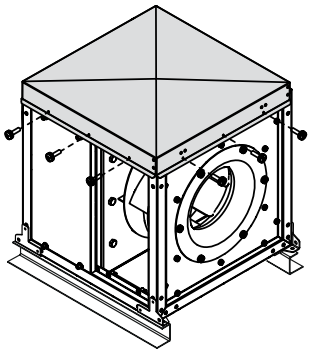
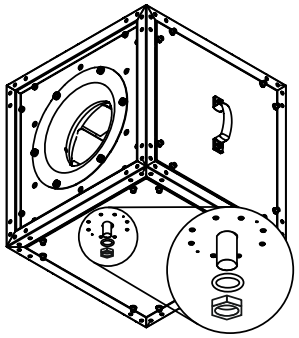
Before installing the fan, make sure that there is no visible damage to the impeller and check the integrity of the insulation of the power supply wires.
The impeller must rotate freely without touching the flange and casing.
The fan must be installed in an air duct of the same diameter.
Mount the fan in such a way that the arrow on the fan casing matches the air flow direction in the system. The fan is mounted in the air duct gap.
The connection to the air ducts is carried out by means of a flexible adapter insert of the appropriate cross-section.
When connecting through flexible inserts, secure the fan to the building structure using the mounting brackets.
The fan can be mounted in any position according to the direction of air flow (indicated by the arrow on the fan casing).
To reduce the aerodynamic drag caused by airflow turbulence, a straight section of ductwork should be located at the inlet and outlet of the fan with a length of 1 air duct diameter on the inlet side and 3 air duct diameters on the outlet side.
No filters or other devices must be installed in these sections.
The fan is not a ready-to-use stand-alone product and is only designed for operation after being connected to the air ducts.
The fan must be securely mounted, while ensuring that it can be easily serviced, and the required distance to the walls of the room is at least 1 m.





The fan Iso-VS is equipped with a drain fitting to be connected to the drainage system.

The fan mounting sequence is as follows:
- Before installation, lay the wires and cables necessary to connect the fan to the power supply.
- Make sure that the motor is not powered.
- Attach the MH Iso-VS brackets to the load-bearing plane (structure) accordingly.
- Attach the fan to the MH Iso-VS mounting brackets using suitable fasteners (e.g. dowels).
- Attach the air ducts to the fan.

Mounting the MH Iso-VS mounting brackets	The fan can be mounted on a horizontal plane.	If installed outdoors, the fan can be equipped with a protective cover – RSD Iso-VS	Installing the drain fitting
			

The MH Iso-VS brackets and the RSD Iso-VS protective cover are not included in the delivery set and must be ordered separately.

CONNECTION TO POWER MAINS

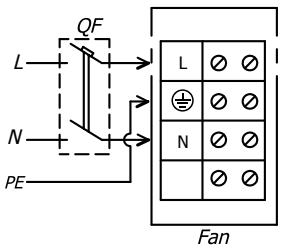
- The unit is rated for connection to power mains with the parameters specified in the "Technical data" section, according to the corresponding wiring diagram.
- The connection must be made using durable, insulated and heat-resistant conductors (cables, wires). The actual wire cross section selection must be based on the maximum load current, maximum conductor temperature depending on the wire type, insulation, length and installation method.
- The product must be connected to fixed wiring in accordance with the applicable regulations.

The wiring must be carried out on the terminal board of the terminal box located on the fan casing according to the wiring diagram and terminal designations. The terminal designations label is located inside the terminal box.

Connection diagrams of fans with an asynchronous motor

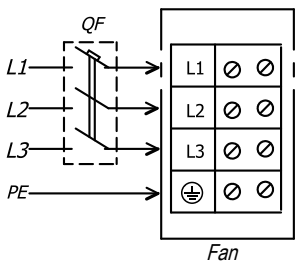
1~230 V

Iso-VS 28-2E



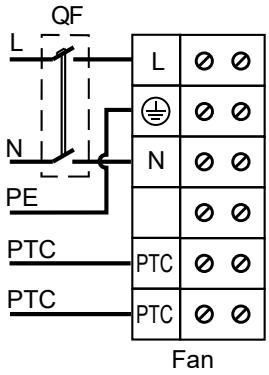
3~400 V

Iso-VS 28-2D



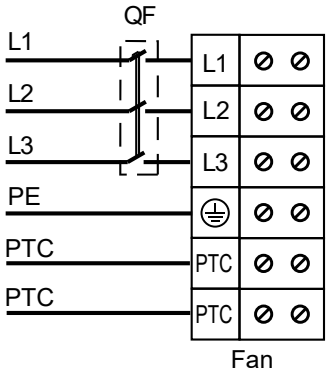
1~230 V

Iso-VS 31-2E, Iso-VS 31-4E, Iso-VS 35-4E, Iso-VS 40-4E, Iso-VS 45-4E



3~400 V

Iso-VS 31-2D, Iso-VS 31-4D, Iso-VS 35-4D, Iso-VS 40-4D, Iso-VS 45-4D, Iso-VS 50-4D, Iso-VS 56-4D, Iso-VS 63-4D, Iso-VS 71-4D, Iso-VS 71-6D, Iso-VS 80-6D

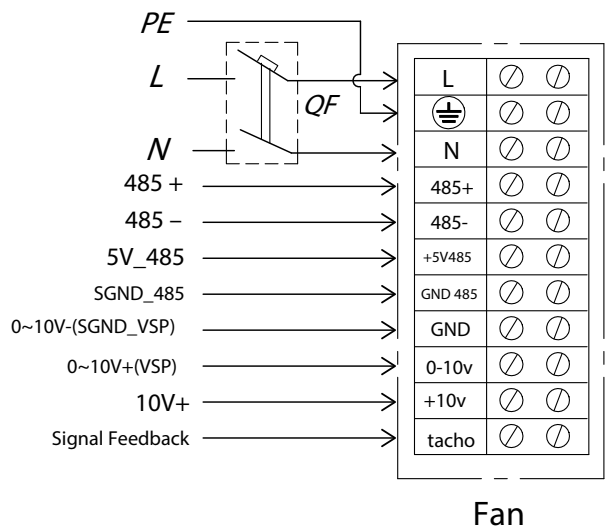


Designations

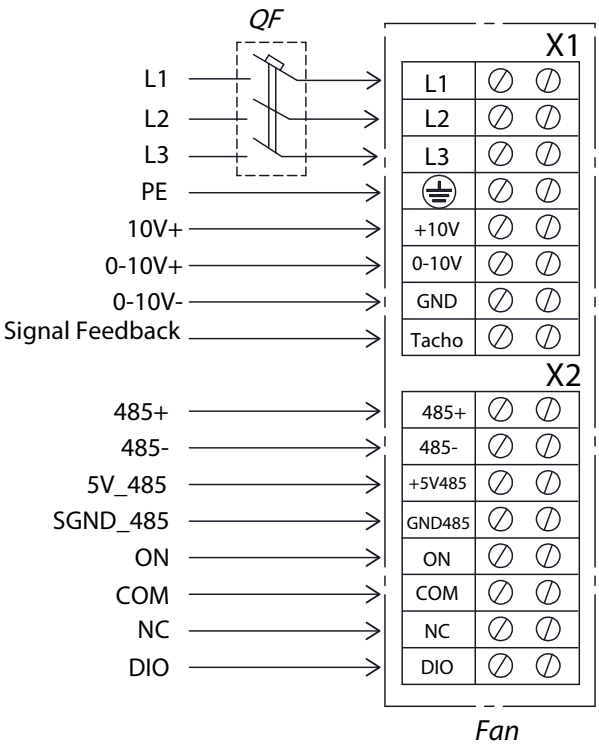
L(x) – phase; N – neutral; QF — automatic circuit breaker; PE – grounding, PTC – motor thermal protection contacts.

Connection diagrams of fans with an electronically commutated motor

1~230 V



3~400 V



MAKE SURE THAT THE FAN IMPELLER ROTATES IN THE DIRECTION MARKED BY THE ARROW ON THE FAN CASING.

IF NECESSARY, CHANGE THE IMPELLER ROTATION DIRECTION BY ALTERING THE PHASE SEQUENCE ON THE ELECTRIC MOTOR TERMINALS.

COMMISSIONING

THE ORGANISATION RESPONSIBLE FOR THE COMMISSIONING SHALL BE RESPONSIBLE FOR PROPER MOTOR PHASING AND STARTING PATTERN SELECTION.

WHEN STARTING, THE FAN'S CURRENT VALUES MAY INCREASE SEVERAL TIMES COMPARED TO THE RATED ONES

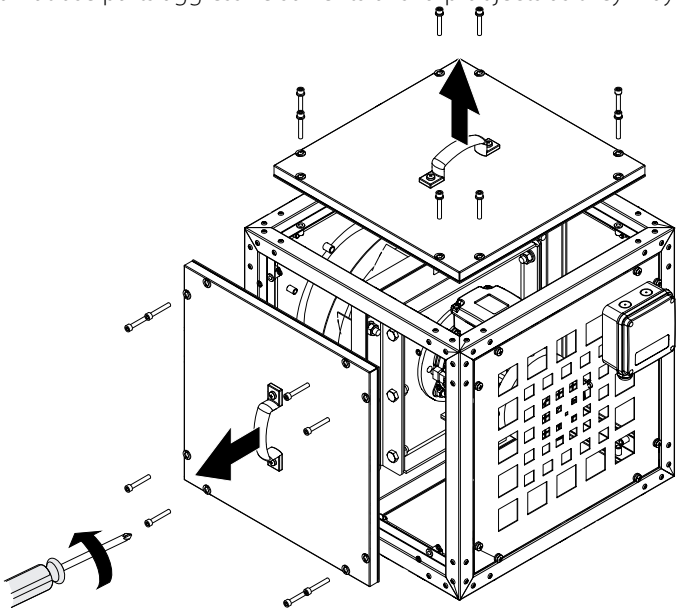
- After fan starting make sure that the electric motor rotates properly without undue vibration and abnormal noise.
- Make sure that the fan energy consumption complies with the value given on the equipment nameplate and check the motor for overheating.
- It is recommended to check the phase current after the fan returns to the rated operation mode.
- Do not quickly turn the fan on and off repeatedly as this may cause the motor to overheat and damage the motor winding or insulation.

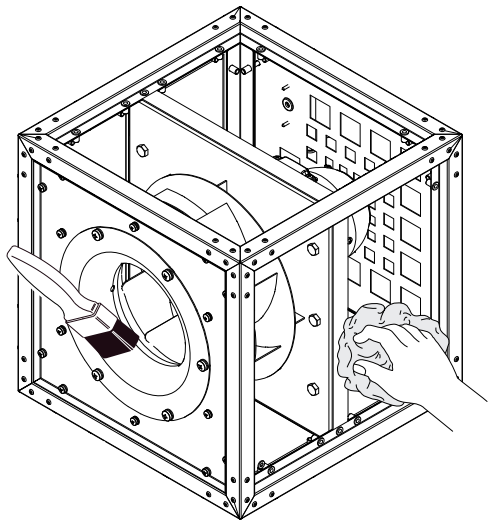
TECHNICAL MAINTENANCE

DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY MAINTENANCE OPERATIONS!

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

- The technical maintenance includes periodic cleaning of the fan surfaces from accumulated dust, fat and dirt.
- When carrying out fan maintenance, it is necessary to partially disassemble it in order to access contaminated parts of the fan.
- Carry out the following steps: unscrew the screws, remove the casing cover.
- The impeller blades require thorough cleaning once in 6 months.
- Use a soft dry cloth or compressed air to remove dust.
- Carry out wet cleaning using a warm water and a mild household detergent solution.
- Protect the electric motor against liquid ingress.
- Do not immerse the unit in water!
- Do not use parts aggressive solvents or sharp objects as they may damage the impeller.





TROUBLESHOOTING

TROUBLE	POSSIBLE REASONS	TROUBLESHOOTING
Fan unit does not start.	No power supply.	Make sure the power supply line is connected correctly, otherwise troubleshoot the connection error.
Low air flow.	The ventilation system is clogged or damaged.	Check the air ducts for clogging. Clean the air ducts if necessary.
Noise, vibration.	The impellers are soiled.	Clean the impellers.
	The screw connection is loose.	Tighten the screws.

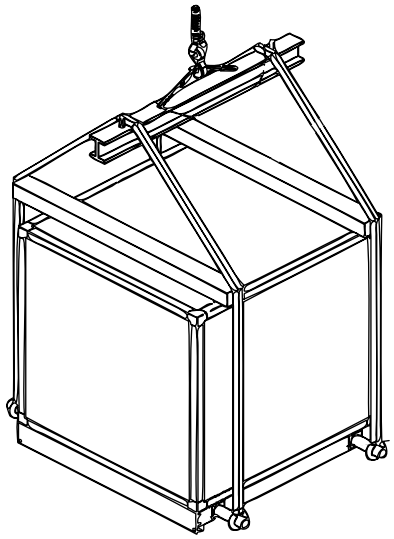
STORAGE AND TRANSPORTATION REGULATIONS

- 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.

SAFETY INSTRUCTIONS FOR LOADING, UNLOADING AND INSTALLATION WORK

CAUTION!
EXERCISE CAUTION DURING HANDLING AND TRANSPORTATION OPERATIONS!

- Be sure to consider the weight of the product and the load-carrying capacity of the handling equipment.
- Transport the fan using appropriate handling equipment: a crane, cross-bar or forklift truck.
- Regardless of the equipment used, the side panels must always be protected to prevent damage by the forklift or cables.
- Select lifting accessories of sufficient length to ensure that the load is evenly distributed.
- Wear protective gloves and safety shoes when working.
- Avoid blows and shocks during transportation.
- Only use suitable lifting equipment for handling.
- Never stand under a suspended fan!



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 dismounted 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.
- Damage to the unit casing 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	Sound-insulated smoke extraction fan
Model	
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	

Seller's Stamp

INSTALLATION CERTIFICATE

The _____ 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:		

Installation Stamp

WARRANTY CARD

Unit Type	Sound-insulated smoke extraction fan
Model	
Serial Number	
Manufacture Date	
Purchase Date	
Warranty Period	
Seller	

Seller's Stamp



BLAUBERG

Manufacturer: Ventilation Systems LLC,
Ukraine, Kyiv, 1 M. Kotsyubynskoho Street
Address of production facilities:
Ukraine, Kyiv Region, Fastiv District, Boyarka, 36 Sobornosti Street

www.blaubergventilatoren.de
B295EN-02