(valid since: 20.06.2022)



OPERATION AND ASSEMBLY MANUAL OF AXIAL FANS TYPE JFV-SLIM

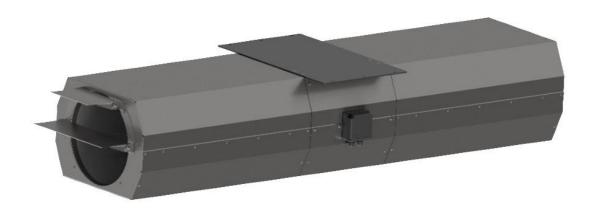




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Group

INTRODUCTION

This manual covers fan listed in Appendix E. It is source of information necessary for safe and proper use. Read this manual carefully before any use of the device, comply with it requirements and keep it in place with easy access for users and service. If case of any doubts about use of the fan, please contact with manufacturer.

Additional requirements about use of the unit can be found in electric motor documentation and markings - those requirements need to be met.



After receiving the device - check

- •whether the device is in compliance with order,
- •whether the data on the rating plate are the same as desired.
- •whether fan was not damaged during transport (e.g. there are no dents/cracks).

In case of any irregularities, contact with your dealer or Venture Industries Sp. z o.o. service.

1. GENERAL INFORMATION

1.1 Information about device

- •Urządzenie przeznaczone jest do przewietrzania dużych przestrzeni (np. parking, garaż) w funkcji pracy awaryjnej. Wentylator jest przeznaczony do swobodnego transportu powietrza Nie jest przystosowany do zabudowy kanałowej.
- Urządzenie przeznaczone jest dla odpowiednio przeszkolonych, wykwalifikowanych osób dorosłych, nie jest przeznaczone do użytku domowego i podobnego.
- •The fan is a not completed machine within the meaning of the Machinery Directive 2006/42/WE (please refer to the manufacturer's declaration Appendix D).
- •The fan is adapted to two-speed operation (more information in appendix E and A).
- The fan is available in two flow versions, unidirectional JFV SLIM type and bidirectional (reverse) JFVR SLIM type.
- •The fan is not designed for household or similar use. The unit is designed to use up to 1000m above see level.
- •The device is designed to transport clean air and smoke (durign smoke removal mode). **Do not transport the explosive mixtures**, solid elements, liquids, **substances that cause abrasion**, chemically reactive compounds. Minimal temperature of transported medium is -20°C, maximum is 50°C.
- •The device is designed to ventilate large spaces (eg parking lot, garage) as a function of emergency operation. The fan is designed for the free transport of air It isn't designed for duct installation.
- •The device is intended for use by properly trained, qualified adults, and is not intended for home or similar use.
- •The fan must be protected from the weather (e.g. snow, rain, excessive sun radiation, lightning). The device is not designed to be installed outdoor. The fan surrounding cannot contain **explosive atmospheres**, substances causing abrasion, chemically aggressive substances, viscous substances, liquid, substances with high humidity. The maximum ambient temperature is 50°C, the minimum is -20°C.
- •The device must not be exposed to radiation (such as microwave, UV, laser, x-ray).
- •Description of construction of the fan has been included in Appendix E.
- •Additional information of the fan usage has been indicated on the device. Additional information have been included in Appendix A.

1.2 General risk and guidelines

W trakcie całego cyklu życia wentylatora należy zwrócić szczególną uwagę na poniżej przedstawione zagrożenia i wytyczne: During entire fan life cycle pay particular attention to the risk and guidelines presented below:

1.2.1 moveable components

•The fan is equipped with moveable components (impeller of the device, impeller of the motor). Contact with them may cause serious injury or death. The fan must not be used if covers (grids) and safety measures against contact with rotating parts have not been installed.



1.2.2. suction

•The fan has high suction power. Clothing, hair, foreign particles, and even body elements can be easily sucked in. It is forbidden to approach the fan in "loose" clothing or reaching toward inlet of working fan and motor impeller. It need to be ensured, that no foreign body can be sucked in.

1.2.3 thrown elements

•The air at the outlet of the fan has high energy. Elements sucked or placed inside the fan can be thrown with a high speed. The fan has stable, solid construction, but as a result of damage or improper use some parts (elements with high kinetic energy) may be thrown away. Make sure that before start and during operation of the fan there are no elements, that may be sucked in (pay special attention to fan inlet side) and there are no person in stream of transported medium (on inlet and outlet side). Do not use fan without proper inlet, outlet covers (grids).

1.2.4 sharp edges

•During manufacturing the fan sharp edges was grinded. However the fan may have edges touching which may cause injury. We recommend the use of relevant protective gloves.



1.2.5 inertness

•The fan has a high inertness. In case of no permanent fix turning on the fan will lead to it uncontrolled movement. The unit can be turn on only after proper installation.

1.2.6 noise

•The sound pressure level is dependent on the operation point. Check the sound pressure level and if necessary use silencers and/or individual protection measures for personnel.





1.2.7 materials

•In case of fire or transport of improper medium – fan parts can generate fumes hazardous to health.

1.2.8 environment

•The fan can make over and under pressure. In areas where a specified air pressure and the quantity of air are required (e.g. in places with combustion) make sure that there would be no deficit/excess of air.

1.2.9 temperature (hot surfaces)

•The housing and fan elements take the temperature of transported medium. During work (e.g. as a result of compression process) the temperature of medium, housing and fan components increase. Electric motor heat up to high temperatures (especially when overloaded/overheated). The appropriate steps need to be made to prevent from fire and burns caused of high temperatures.



In case of fire – to extinguish a fire use fire extinguisher approved for electrical equipment and follow recommendation of fire department.

1.2.10 unexpected start / connecting power supply

•Before undertaking any kind of work on fan (e.g. installation, maintenance and inspection, disassembly), it has to be completely and reliably disconnected (isolated) from power supply (check there is no voltage). It has to be ensured, that power supply will not be connected during work on fan and moveable parts are not moving.



- •The appropriate steps need to be made in order to provide protection against electric shock and to prevent from access to electrical components by unauthorized person.
- •Fan is not equipped with control system the connecting of power supply causes immediate start-up. The device is not equipped with system, that would permanently shut it down in case of temporary power supply loss. It has to be ensured, that any dangerous or unpermitted event does not occur in case of temporary loss of power supply.



- •In case of impeller jamming its unblocking may cause sudden movement. Appropriate steps need to be made in order to avoid impeller jamming. In case of impeller jamming, fan need to be completely disconnected from power supply and repaired.
- After disconnecting from power supply fan still works for certain time (moveable parts are moving) as a result of energy accumulation.

1.2.11 use

- •Improper installation and/or use may lead to damage of the device and occurrence of dangerous situation. The unit can by installed, maintained, dismantled and used only by qualified and authorized personnel, in accordance to safety rules and current regulations in the country of use (including proper electrical authorization). Personnel need to be familiar with reactions caused by the fan.
- •Using of fan in dismantled/uncompleted state is forbidden, e.g. without junction box cover, revision cover.
- •During the works (e.g. maintenance, installation) the fans surrounding needt to be protected from bystanders approach.
- •Any modifications of the unit are forbidden. Complicated maintenance work (such as dismantling the motor or impeller) need to be made by Venture Industries Sp. z o.o. service or with it permission according to additional guidance. Improper assembly may lead to reduce the fan parameters, damage the unit and lead to the dangerous situation.

1.2.12 accumulation of dust

•Prevent the accumulation of dust, sediment on and inside the fan. Dirt accumulated on: grids – reduce the fan parameters; impeller – may lose it balance; housing and motor – can reduce the cooling; hot surfaces (see 1.2.9) – may ignite.

1.2.13 explosive atmospheres

• Contact of the fan with explosive atmospheres cause in ignition. It is forbidden to contact the fan with explosive atmospheres.



2. TRANSPORT AND STORAGE

2.1 transport and storage guidelines

- •The fan need to be transported and stored in original packaging, without excessive shocks. The device must be protected from weather conditions, transported and stored in dry (humidity below 80% at 40°C), well ventilated, and free from substances harmful to the device areas. The fan cannot by transported and stored in areas with fertilizers, chlorinated lime, acids and other aggressive chemicals. Fan need to be protected against foreign body entrance.
- •Temperature cannot be lower than 0°C and higher than 40°C.
- •The impeller should be rotated at least once per month (several complete turns) in order to maintain proper condition of bearings.
- Protect the fan against mechanical damage (including crush) during transport. After lifting unit it need to be put slowly.
- •The unit should be lifted by housing elements Do not lift the unit by impeller, motor elements (e.g. eye bolt). **During lifting the device must remain stable.**



- •Do not approach lifted device. In case of breaking, falling device may cause serious injury or death.
- •It is recommended that storage time does not exceed one year. After long storage, before installation check the fan. (section 5).

3. ASSEMBLY AND INSTALLATION

3.1. General information

During installation follow the guidelines contained in section 1.2

- •The fan is a machine not ready for use (within the meaning of the Machinery Directive 2006/42/WE before use of the device ensure conformity with requirements of Machinery Directive 2006/42/WE.
- •Before installation remove temporary items that protect fan during transport and storage (e.g. box, foil, inlet and outlet caps do not remove any guards) Starting the fan with those items could lead to damage of the fan. Make sure that the fan is not damaged.



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Warning: Sound attenuators are covered with foil on the outer side, which should be removed before assembly.



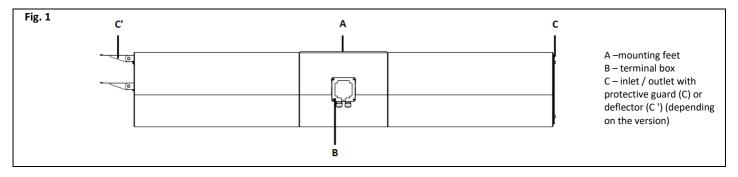
•Ensure that there are no foreign bodies (e.g. mounting elements, tools) inside fan and near of the unit, the fan is properly secured after installation (the cover of connection box and inspection cover are closed and secured, the connecting elements are properly tightened). Technical acceptance need to be carried out in accordance with Appendix B.

During mechanical connection special attention need to be paid to prevent from falling sold objects into fan, which would lead to it damage.

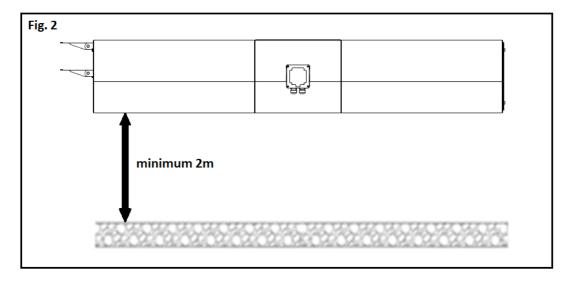


3.2 Assembly information

•Fan need to by mounted in possition presented on Fig 1., with horizontal motor shaft possition (with mounting feet on top). All mounting holes should be used. The fan was designed to operate without ducts on inlet and outlet side (jet operation). Fasteners secured against loosing need to be applied.



- •Supporting construction has to be solid enough in order to carry the weight of the fan and generated vibration (including fan damage). The fan cannot be exposed to vibration.
- •In order to be protected againts touching moving parts, fan needs to be installed at a proper height (Fig. 2)

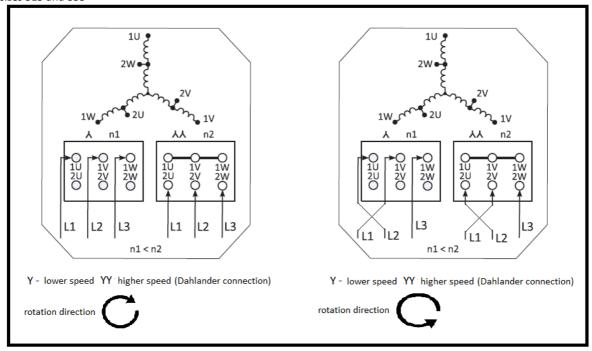


- Fan need to be secured from sucking foreign elements (see paragraph 1.2.3).
- •It is recommended to apply measures minimizing transmission of vibration from/to the fan.

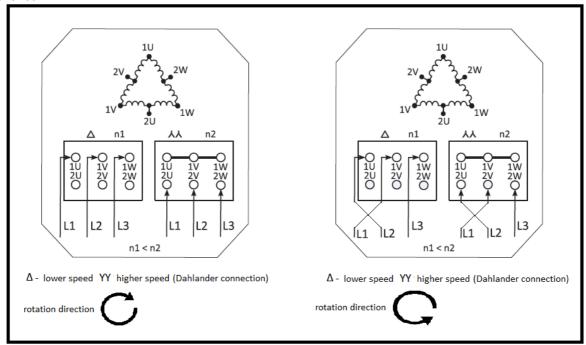
3.3 Electrical connection guidelines

- •The fan and power supply network must be protected in accordance with local law requirements.
- •Protection against short-circuits, overload, voltage asymmetry and electric shock need to be applied in standard operation mode. Detailed guidance on electrical connection of motor is provided in operation manual of motor it should be followed.
- •The device must be connected to the mains in accordance with the diagram below. The direction of rotation can be changed by changing the phase sequence.

Models in sizes 315 and 355



Models in size 400



- •Voltage and frequency of supply network must comply with those indicated on the fan nameplate.
- •Use electrical wires with proper insulation, cross-section and thermal resistance. Wires need to be placed in way excluding contact with moving elements and in a way that liquid (e.g. from condensation) does not run over them in the motor connection box. Connection box and housing cable glands need to be properly tightened.
- •The installer is available in the terminal box a single M20 with a clamping range of 7-13mm.
- •Modifications to the terminal box are allowed after prior contact with the manufacturer and approval of any changes by him. Changes not approved by the manufacturer may invalidate the certificate.

3.4 Impeller rotation direction

Make sure that after installation and during using the fan the impeller would rotate in correct direction. After mounting fan to proper construction, with special care taken and in accordance with sector 1 and 4, launch the fan in impulse way (less than 1 second) and check, if the impeller rotates in correct direction, generating airflow in proper direction.



Group
4. USE

4.1 Use guidelines

- •Make sure that turning on of the fan does not make any hazard for personnel and property. Follow the guidelines featured in section 1.2.
- •The fan is designed for continuous operations (S1 in standard operation mode) too high frequency of starting the fan may lead to motor overheat and damage and to switching to second operation mode (S2 smoke removal).
- •Fan cannot work with voltage, frequency, current different than shown on the fan nameplate. It is not adapted to work with frequency converter.
- •In standard operation mode the device cannot work with current consumption exceeding the value indicated on the nameplate.

Warning: Change of fan operation direction is allowed only after impeller stops.



•The fan should be started up at least once per month (for a minimum few minutes) in order to maintain proper operation of bearings.

5. MAINTENANCE, REVIEW

5.1 Maintenance guidelines

- •During maintenance and review follow the guidelines contained in point 1.2
- Fan need to be subject of regular review and maintenance (point 5.2).

•Warning: Maintenance and review of motor need to be overtaken in accordance with motor documentation and markings. Special attention should be paid to bearings and winding lifetime.



- •To clean fan construction use slightly damp delicate material. It is prohibited to use detergents, liquids under pressure and tools that may scratch the unit surface.
- •The fan need to be turned on at least once a month (minimum couple of impeller turns).
- •Ensure that there are no foreign bodies (e.g. assembly components, tools) near and inside the fan, the fan is dry and secured after maintenance and review. After cleaning finishes, turn on the fan at max speed for 30 minutes.
- •The inside of the fan silencers can be accessed by removing the guard (or the deflector if used). the impeller and motor can be accessed after removing the fan guard and then the fan silencer

•During review special attention to the following need to be paid:

dust and dirt	Prevent the accumulation of dust/dirt on and inside the fan. Dirt accumulated on: grids – may reduce the fan parameters;					
dust and dirt	housing and motor – can reduce the cooling; hot surfaces –may ignite.					
corrosion	Corrosion of the fan may lead to mechanical damage of it. If corrossion appears the fan should be repaired.					
	Exceeding of nominal current	Exceeding of nominal current may be caused by mechanical damage (e.g. impeller, bearing), improper electrical				
overload	load connection. Current value must be controlled, and if its growth is noticed, the reason need to be determined a				d to be determined and device	
	need to be repaired. Current value	ue cannot exc	eed nominal va	lue during stan	dard operation	n mode.
	Excessive vibration may cause mechanical damage of the fan or mounting construction of it. The vibration increase can indicate bearings damge or loss of impeller balance. Vibration value need to be controlled, and if its growth is noticed, the reason need to be determined and device must be repaired.					
	Maximum vibration value on bearings (perpendicular to motor shaft) after fan installation cannot exceed value presented					
	in table below:	o		,		·
		rigidly mounted*		flexibly monted*		
		peak	r.m.s	peak	r.m.s.	
vibration		6.4 mm/s	4.5 mm/s	8.8 mm/s	6.3 mm/s	
	*according to ISO 14694					
	Note : Vibration measurement of without risk of contact of user w	J		•	alistic equipem	ent that allows safe control -

5.2 Review and maintenance

- •The set between routine checks and maintenance need to be determined by user, based on the observation of unit and specific conditions of use, in order to include specific work conditions. The set cannot be longer than introduced below
- In the case of irregularities the device must be repaired / cleaned (when dirt occurs). Examples of reasons for device to work in emergency mode are given in Appendix C.
- •Staff operating the device must be familiar with it normal working conditions. If the fan work differ from it normal working conditions it need to be turn off from work and inspected.
- •Detailed information about komponents and it tightening torque is available on request.



Recommended daily review:

- •Device is undamaged, stable and works properly
- •There are not any leaks, smoke from motor
- •Device does not emit any untypical noise, vibration and does not heat up excessively
- •Device is clean (general control), corrosion does not occur (general control)
- •Wires are not damaged
- •there are no untypical leaks from fan
- •Covers are in proper state and clean

Mmonthly review

- •Fan current value is not higher than beginning value
- •Vibration value is not higher than beginning value
- •Device and covers are clean
- •Filter is not clogged.

Review once per 3 months, not less than 6 month and 3000 hours of work

- Corrosion does not occur
- •Fasteners state is proper (they are properly tightened)
- •Security devices are working and set properly, protection against electrical shock is effective.
- •Motor insulation resistance value is correct
- •Structure is complete, components are not damaged

Fan review made by Venture Industries Sp. z o.o. service is recommended.



6. REPAIR, WARRANTY

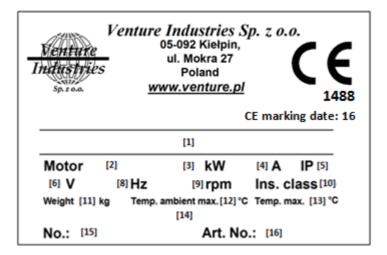
Use only original spare parts and original accessories. Fan repairs need to be made by Venture Industries Sp. z o.o. service or outside, after manufacturer permission. Warrantee conditions are described in guarantee card.

7. DISMANTLING AND RECYCLING

Disconnect unit from its power supply, and dismount according to the guidelines from section 1 of this instruction. Therefore, please deposit all left-over material and packaging in their corresponding recycling containers and hand in the replaced machines to the nearest handler of this type of waste product.



Appendix - A (Product indication)



- [1] product full name
- [2] motor type
- [3] motor power
- [4] nominal current
- [5] motor IP class
- [6] nominal voltage
- [8] power supply frequency
- [9] nominal fan speed

- [10]- motor insulation class
- [11] weight
- [12] max ambient temperature
- [13] max temperature of transported medium

(during standard operation mode)

 $\label{eq:condition} \textbf{[14]}-\text{informetion of accordance with ErP Directive}$

(if apply)

- [15] serial number
- [16] Art. No.

Additional information indicated on the device

- arrow informing about correct direction of impeller rotation
- arrow informing about correct air flow direction



Appendix B - (The device receipt form)

Before launch	Check
before launch	confirmation
Type and model of fan are in accordance with the order.	
The fan is undamaged.	
There is no foreign body inside fan, and the fan is clean.	
The fan is reliably and solidly fixed in workplace.	
The fan has been properly leveled.	
Wires are properly tightened.	
Ambient temperature and transported medium temperature are compatible with fan nameplate	
Proper electrical protection is applied	
Network power supply is compatible with fan power supply.	
Personnel using the fan read and understood the operation and montage manual.	
After fan launch (continuous work period minimum 30 minutes)	
Readings and set of vibration measurement device has been written (they are available in future)	
Readings and set of current measurement device has been written (they are available in future)	
Value of current for each of phase does not exceed nominal one	
The vibration value is not higher than permitted.	

Appendix - C (EXAMPLES OF DEVICE FAULTY WORKING)

SYMPTOMS	POSSIBLE REASON
	Used or damaged impeller
	•Fan levelled in wrong way
	Dirt accumulated on impeller caused loss of balance;
	•Impeller loss of balance
Excessive vibration or	Parts rubbing;
noise	Damage or wear of bearings;
	•Damage of measurement system, that is responsible for signalization of excessive vibration.
	Deformed motor shaft;
	•Loose of impeller fix screw, impeller is loose on motor shaft;
	•Loss of balance of motor impeller or damage of motor (wear/damage of bearing)
	Rubbing between fan impeller and housing;
	Damage or wear of bearings;
	•Damage of motor windings (overheat, insulation degradation, insulation breakdown etc.);
Motor overload	Damage of switch or security system;
	•Failure of one of supply phases;
	•Exceeding of maximum motor speed;
	•Too low flow
	•Rubbing between fan impeller and housing or foreign body (e.g. tool left after installation);
	•Failure of one of supply phases;
Failed fan start-up	•Failure of start-up system, e.g. Y/D
ranca fan start up	•Reset of security devices has not been made, wrong security device
	Motor connected in wrong way or damaged
	•Too low supply voltage
	Excessive start-up time
	Motor overload
Protective devices	•Motor launching done too often (thermal protection – if applied or overheating)
activation during fan	•Improper set of protection system e.g. in system with PTC or thermocontact sensors (if applied)
work and overheating	•Improper cross-section of power supply wires
	•Lack of sufficient motor cooling eg. dirt placed on motor cooling impeller (thermal protection – if applied or
	overheating)
	Damage of device
Too low flow	•Too low power supply frequency
100 1011 11011	Obstacles in ventilation installation
	Damaged bearings



Appendix - D (Declaration of Manufacturer)

EU Declaration of Conformity in accordance with 2014/30/EU Directives **EC Declaration of Incorporation** in accordance with 2006/42/EC Directive (Appendix II 1B)

Manufacturer:

Venture Industries Sp. z o.o.

ul. Mokra 27

05-092 Łomianki-Kiełpin

Polska



doc. no. S1.3.17102022_EN

Declares that the product described below:

Name:

Jet fan

Type:

JFV SLIM / JFVR SLIM

Model and serial no.:

All manufactured

CE marking date:

2022 - in accordance with 2014/30/EU Directive

Use/Function:

Transport of specified medium after incorporation into machinery (as defined by

2006/42/WE Directive)

complies with the requirements of:

- •Machinery Directive 2006/42/EC Annex I, item: 1.3.4, 1.5.1, 1.7.1.
- Electromagnetic Compatibility Directive 2014/30/EU

Compliance with 2014/30/EU Directive applies to the single product. When product is used with other components the installer is responsible for compliance of entire system with the provisions of 2014/30/EU Directive.

Following standards were applied (partially or full):

EN ISO 12100

EN 60034-1

FN 60204-1

EN ISO 13857

Furthermore:

- •Product is partly completed machinery (as defined by Directive 2006/42/EC), and it must not be put into service until the machinery in which it is incorporated has been declared in conformity with the provisions of 2006/42/EC Directive (and its amendments).
- •This declaration becomes invalid if the product is installed that the lowest it part is located at height of less than 2m from the ground surface and in case of non-compliance with manual guidelines.
- •The machinery (installation) into which the product is incorporated should particularly meet the requirements of current standards: EN ISO 12100, EN ISO 13857, EN ISO 13854, EN ISO 13850, EN 60204-1.
- •In accordance with 2006/42/EC Directive requirements: The technical documentation for above mentioned product has been prepared in accordance with Directive 2006/42/EC, Annex VII, Part B, and is located in the manufacturer office: Lotnicza 21A, 86-300, Grudziądz, Poland. The person authorized to comply the relevant technical documentation: Piotr Pakowski (Lotnicza 21A, 86-300, Grudziądz, Poland). Relevant information about the product will be provided in electronic or paper form in response to a reasonable request of national authorities.
- •The product complies with Directive Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
- •According to the current level of knowledge, our suppliers of components, raw materials and preparations involved in our supply chain, working according to standards compatible with Regulation (EC) No 1907/2006 (REACH) and subsequent amendments.
- Integrated Management System is compliant with PN-EN ISO 9001:2015 and PN-EN ISO 14001:2015 standards.

Date: 17.10.2022

Kiełpin

Wojciech Stawski Managing Director



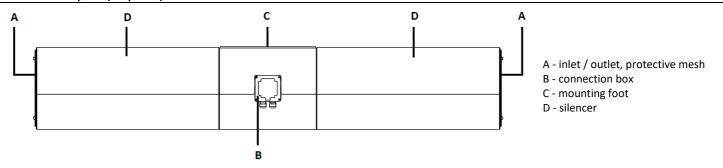
Appendix - E (Schematic diagram)

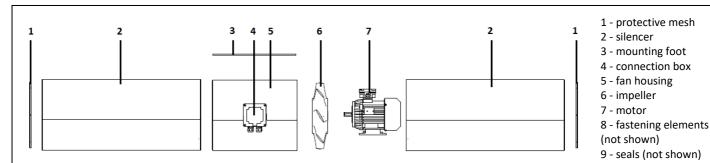
A fan with two inlets covered with a protective mesh / list of devices

Table of devices

No. art.	name	power supply	power (kW)	Type
422535004	JFV/2/4-315-100/025T SLIM	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535014	JFV/2/4-355-100/025T SLIM	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535024	JFV/2/4-400-140/090T SLIM	400V, 50Hz	1.4/0.9	Two-speed (D/YY)
422535104	JFVR/2/4-315-100/025T SLIM	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535114	JFVR/2/4-355-100/025T SLIM	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535124	JFVR/2/4-400-140/090T SLIM	400V, 50Hz	1.4/0.9	Two-speed (D/YY)

General description (simplified)





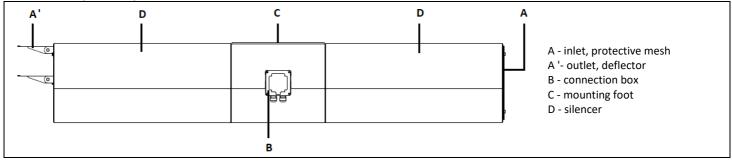
Protective mesh (1) made of steel wire, galvanized. Silencer (2) are made of aluminum sheet (external sheathing) and galvanized sheet metal (internal sheathing). The mounting foot (3) and the internal fan casing (5) are made of powder coated steel sheet. The outer sheathing of the fan casing (5) is made of aluminum sheet. The soundproofing elements used in the silencers (2) and the fan casing (5) are made of non-flammable wool, class A1. The impeller (6) is made of cast aluminum and stainless steel (JFVR models), or of PPG and aluminum (JFV models). The construction uses sealing pastes and / or tapes (e.g. EPDM).

A fan with one protective mesh and one deflector/ list of devices

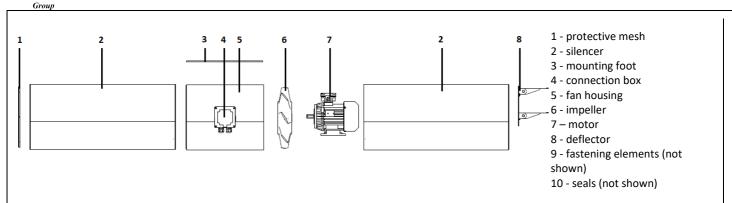
Table of devices

No. art.	name	power supply	power (kW)	Type
422535007	JFV/2/4-315-100/025T SLIM 1xD	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535017	JFV/2/4-355-100/025T SLIM 1xD	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535027	JFV/2/4-400-140/090T SLIM 1xD	400V, 50Hz	1.4/0.9	Two-speed (D/YY)
422535108	JFVR/2/4-315-100/025T SLIM 1xD	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535118	JFVR/2/4-355-100/025T SLIM 1xD	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535128	JFVR/2/4-400-140/090T SLIM, 1xD	400V, 50Hz	1.4/0.9	Two-speed (D/YY)

General description (simplified)







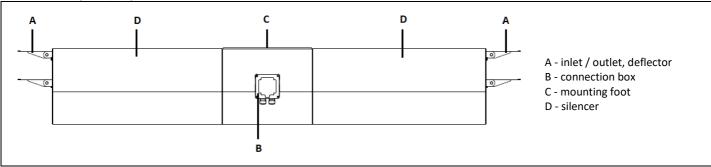
Protective mesh (1) made of steel wire, galvanized. Deflector (8) made of galvanized sheet. Silencer (2) are made of aluminum sheet (external sheathing) and galvanized sheet metal (internal sheathing). The mounting foot (3) and the internal fan casing (5) are made of powder coated steel sheet. The outer sheathing of the fan casing (5) is made of aluminum sheet. The soundproofing elements used in the silencers (2) and the fan casing (5) are made of non-flammable wool, class A1. The impeller (6) is made of cast aluminum and stainless steel (JFVR models), or of PPG and aluminum (JFV models). The construction uses sealing pastes and / or tapes (e.g. EPDM).

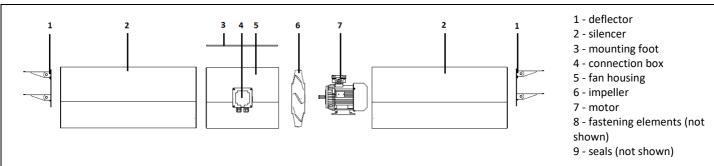
A fan with two deflectors / list of devices

Table of devices

No. art.	name	power supply	power (kW)	Туре
422535109	JFVR/2/4-315-100/025T SLIM 2xD	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535119	JFVR/2/4-355-100/025T SLIM 2xD	400V, 50Hz	1/0.25	Two-speed (YY/Y)
422535129	JFVR/2/4-400-140/090T SLIM 2xD	400V, 50Hz	1.4/0.9	Two-speed (D/YY)

General description (simplified)





Deflectors (1) are made of galvanized sheet. Silencer (2) are made of aluminum sheet (external sheathing) and galvanized sheet metal (internal sheathing). The mounting foot (3) and the internal fan casing (5) are made of powder coated steel sheet. The outer sheathing of the fan casing (5) is made of aluminum sheet. The soundproofing elements used in the silencers (2) and the fan casing (5) are made of non-flammable wool, class A1. The impeller (6) is made of cast aluminum and stainless steel (JFVR models), or of PPG and aluminum (JFV models). The construction uses sealing pastes and / or tapes (e.g. EPDM).