# OPERATION AND ASSEMBLY MANUAL OF AXIAL FANS TYPE JFSR

Venture Industries Sp. z o.o. is not responsible for any damage caused by improper use of the fan and reserves the right to modify this document without informing the user.

**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).
- whether following documentation is attached:

| | |
|---|---|
| 1. | Certificate of quality control of the fan |
| 2. | Certificate quality control of the fan - F400 |
| 3. | Declaration of performance of the fan |
| 4. | Motor documentation (Operation manual of three-phase induction motors) |
| 5. | Motor documentation (Installation manual and safety rules) |
| 6. | Motor documentation (Maintenance manual of Fumex® motors) |

**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

- 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 made in accordance with regulation 305/2011 and EN 12101-3 standard (please refer to the declaration of performance – appendix D).
- The fan is adapted to single speed or two-speed operation, depending on model (more information in appendix E and A).
- The fan is made in revisable version – transport of medium is possible in impeller -> motor and motor -> impeller direction.
- 400 and 450 size fans are delivered in dismantled state. Before assembly please follow guide in appendix F.
- The unit is dual use device – designed to standard and emergency operation (smoke removal mode).

**Attention:** Smoke removal mode applies to fan operating at higher speed (refers to two-speed fans).

- 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 -15°C, maximum is determined on rating plate (for standard operation mode) and equals 400°C for 2 hours (during operation in smoke removal mode).
- 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. Maximum ambient temperature is determined on rating plate (for standard operation) and equals 400°C for 2 hours (during operation in smoke removal mode).
- The device must not be exposed to radiation (such as microwave, UV, laser, x-ray).
- The impeller has been balanced in accordance with minimum G1.0 class ISO 1940-1, and general construction of the fan in accordance with cat. BV-3 ISO 14694
- 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

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.

1.2.10 se

•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 ccumulation 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.

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

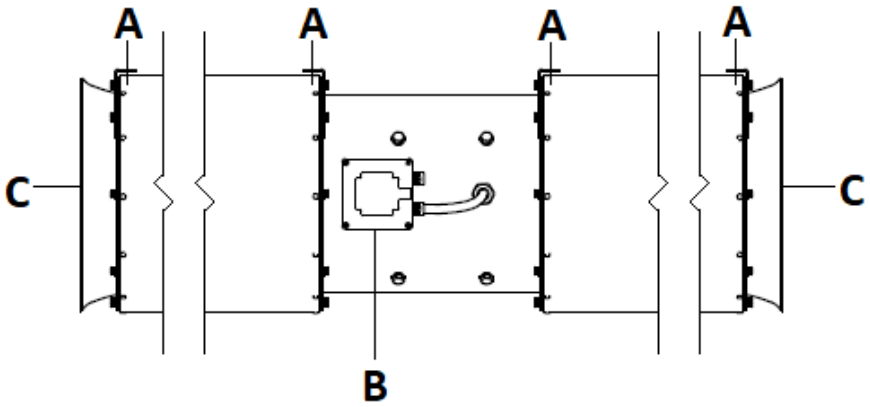
•Ensure that there are no foreign bodies (e.g. mounting elements, tools) inside fan and near of the unit, the fan is properly secured after installation (the cover of connection box and inspection cover are closed and secured, the connecting elements are properly tightened). Technical acceptance need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

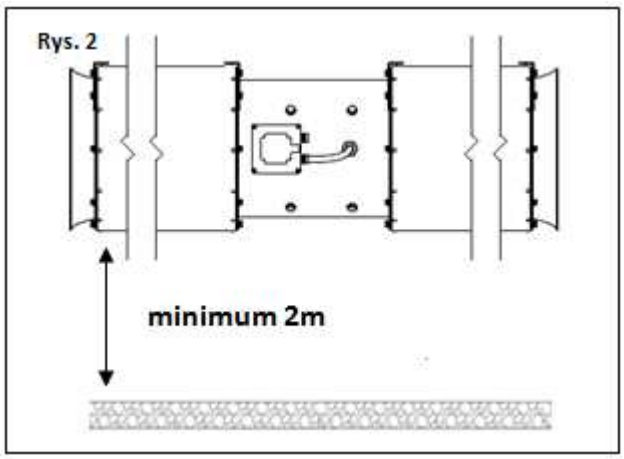
**Fig. 1**




Gdzie:
A –mounting feet
B – terminal box
C - inlet / outlet

•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.
•Keep safe distance between installed device and inflammable elements (special attention to hot surfaces of device need to be paid).

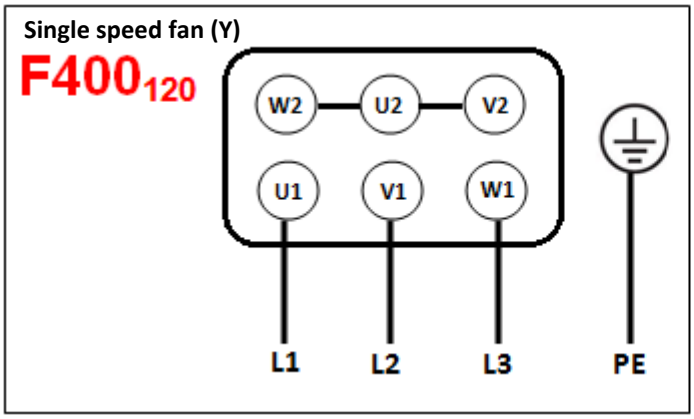
**3.3 Electrical connection guidelines**

•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. In smoke removal operation mode, follow smoke and heat control systems guidance.

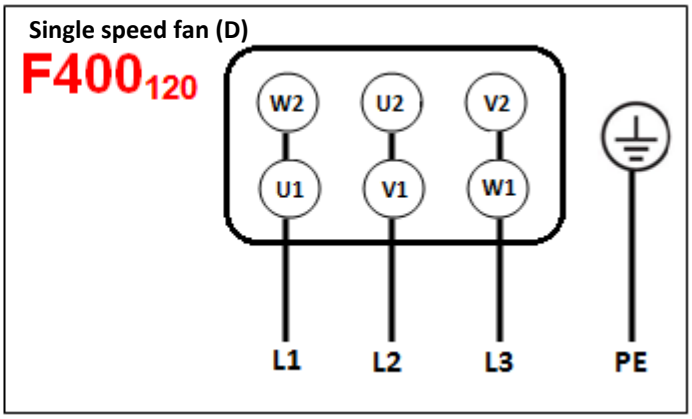
**Warning:** During smoke removal operation fan must be connected directly to sinusoidal power supply

•The fan should be connected to power supply according to scheme below. Change of impeller rotation direction can be obtained by changing phases order.

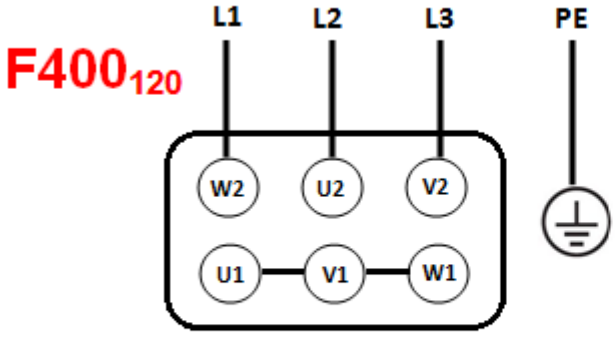
**Single speed fan (Y)**



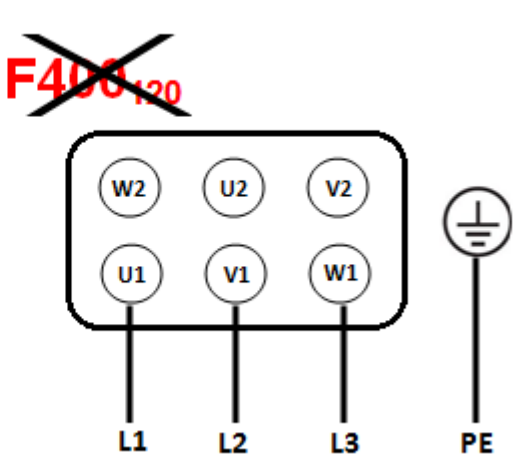

**Single speed fan (D)**




**Two-speed fan – higher speed (YY)**




**Two-speed fan – lower speed (Y)**



•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.

**4. USE**

**4.1 Use guidelines**

**Warning:** Two-speed fan is adapted to smoke removal operation mode only at higher speed

**Warning:** After operation in smoke removal mode the fan should be maintained and repaired (by the manufacturer) or replaced

•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.
•Fan interior can be reached by demounting of confusor (or defusor – if applied). More information on demounting in mounting is included in Appendix F.

•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; 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. |
| overload | Exceeding of nominal current may be caused by mechanical damage (e.g. impeller, bearing), improper electrical connection. Current value must be controlled, and if its growth is noticed, the reason need to be determined and device need to be repaired. Current value cannot exceed nominal value during standard operation mode. |

<table>
<tr>
<td>vibration</td>
<td>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.<br>Maximum vibration value on bearings (perpendicular to motor shaft) after fan installation cannot exceed value presented in table below:
<table>
<tr><td colspan="2">rigidly mounted*</td><td colspan="2">flexibly monted*</td></tr>
<tr><td>peak</td><td>r.m.s</td><td>peak</td><td>r.m.s.</td></tr>
<tr><td>6.4 mm/s</td><td>4.5 mm/s</td><td>8.8 mm/s</td><td>6.3 mm/s</td></tr>
</table>
*according to ISO 14694<br><br>Note: Vibration measurement on bearings need to be made with specialistic equipement that allows safe control - without risk of contact of user with rotating elements (see ISO 13857).</td>
</tr>
</table>

**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.

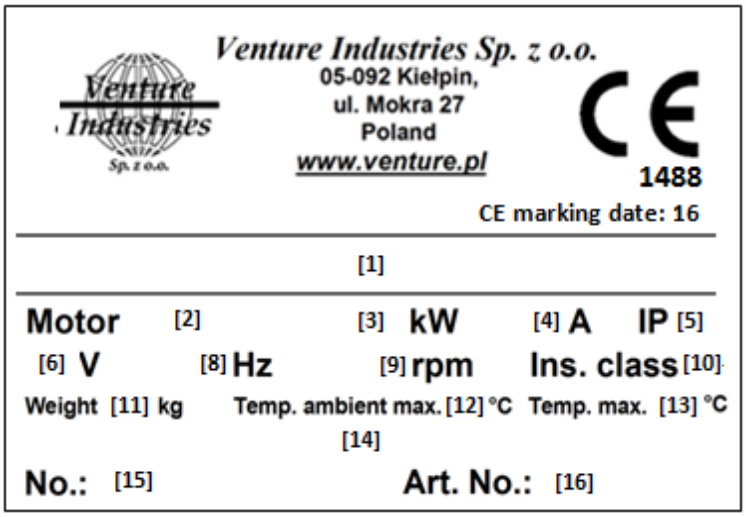
**6. REPAIR, WARRANTY**

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)**




| |
|---|
| Powered Smoke and Heat Control ventilator. |
| [17] |
| **EN 12101-3:2015** |
| **Product:** [1] |
| Intended to be installed as part of a powered smoke and heat control ventilation system in construction works |
| **Response delay:** |
| -opening under wind load within a given time: NPD |
| -opening under snow load within a given time: NPD |
| **Operation reliability:** |
| - Application category: Dual purpose |
| - Motor rating: [18] |
| **Effectiveness of smoke / hot gas extraction** |
| - Gas flow and pressure maintenance during smoke and heat extraction test: |
| - Resistance to fire: [19] |
| **Ability to open under environmental conditions:** |
| -opening under wind load within given time: NPD |
| -opening under snow load within a given time: NPD |
| **Durability of operational reliability: [20]** |
| This Powered Smoke and Heat Control ventilator shall be installed as per the manufacturer's instruction. |

[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)
[14] – informetion of accordance with ErP Directive (if apply)
[15] – serial number
[16] – Art. No.
[17] – Certificate of Constancy of Performance No.
[18] – Motor qualification according to Declaration of Performance
[19] – Fire resistance according to Declaration of Performance
[20] – Durability of operational reliability according to Declaration of Performance

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

**Appendix - D (Declaration of Manufacturer)**

**EU Declaration of Conformity** in accordance with 2014/30/EU
**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. S2.1.02012019_EN*

**declares that the product described below:**

| | |
|---|---|
| Name: | Jet Fan |
| Type: | JFSR |
| Model and serial no.: | all manufactured |
| CE marking date: | 2010 - in accordance with directive 2014/30/EU and Regulation (EU) No 305/2011 |
| 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 EN 60204-1 PN-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.
- 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.
- Quality system is in accordance with ISO 9001:2015.

**Wojciech Stawski**
Managing Director

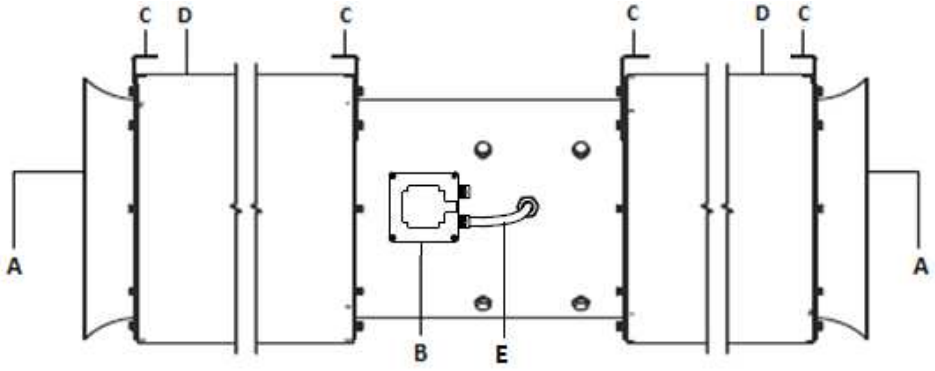
Date: 02.01.2019
Kiełpin

**Appendix - E (Schematic diagram of the fan with to inlet/outlet / list of units)**

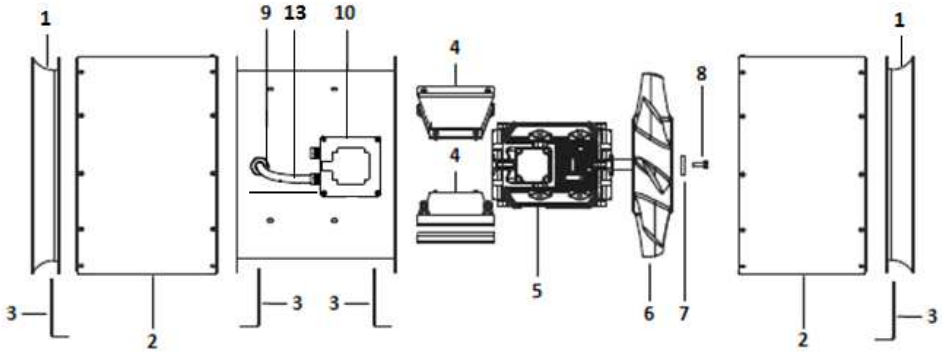
**Table of versions**

| Art. No. | name | Power supply | Power(kW) | Type |
|---|---|---|---|---|
| 422535300 | JFSR/2-315-075T | 400V, 50Hz | 0.75 | Single speed (Y) |
| 422535310 | JFSR/2-355-110T | 400V, 50Hz | 1.1 | Single speed (Y) |
| 422535320 | JFSR/2-400-150T | 400V, 50Hz | 1.5 | Single speed (Y) |
| 422535330 | JFSR/2-450-300T | 400V, 50Hz | 3 | Single speed (Y) |
| 422535305 | JFSR/2/4-315-075/015T | 400V, 50Hz | 0.75/0.15 | Two-speed (YY/Y) |
| 422535315 | JFSR/2/4-355-130/025T | 400V, 50Hz | 1.3/0.25 | Two-speed (YY/Y) |
| 422535325 | JFSR/2/4-400-180/037T | 400V, 50Hz | 1.8/0.37 | Two-speed (YY/Y) |
| 422535335 | JFSR/2/4-450-260/065T | 400V, 50Hz | 2.6/0.65 | Two-speed (YY/Y) |

**General description (simplified)**




A – inlet/outlet, safety grid
B – terminal box
C – mounting feet
D – sound attenuator
E – motor supply wire between motor and terminal box - with protecting metal conduit




1 – confusor
2 – sound attenuator
3 – mounting feet
4 – motor mounting feet
5 – motor
6 – impeller
7 – bushing
8 – fastening elements
9 – cable gland
10 – housing
11 – fastening elements (not shown on picture)
12 – sealing (not shown on picture)
13 – motor supply wire between motor and terminal box - with protecting metal conduit

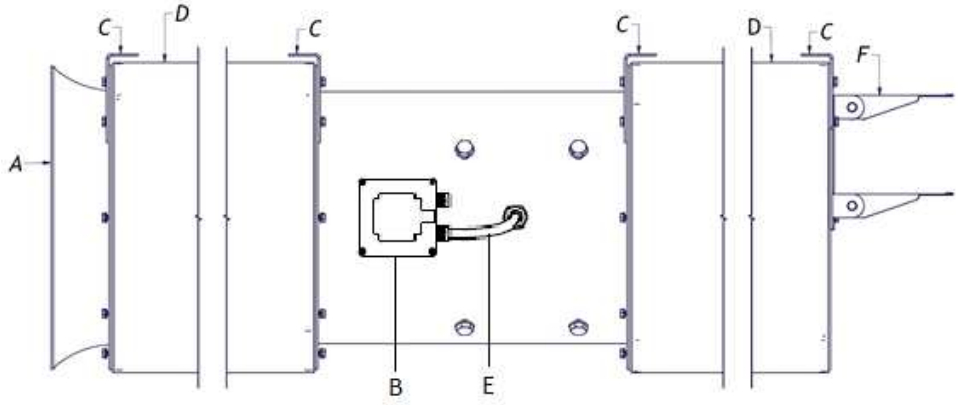
Confusor (1), housing (10), mounting feet (3) made of galvanized carbon steel. Sound attenuator (2) made of galvanized carbon steel, aluzinc steel, sealing mat and steel fastening elements. Motor mounting feet (4) made of stainless steel. Impeller (7) made of cast aluminium, stainless steel and fastening elements made of galvanized steel. Bushing (7) made of steel, fastening elements (7,11) made of steel and/or stainless steel. For sealing - sealing tapes (eg. EPDM) and/or sealing paste has been used.

**Schematic diagram of the fan with one inlet/outlet and one deflector/ list of units**

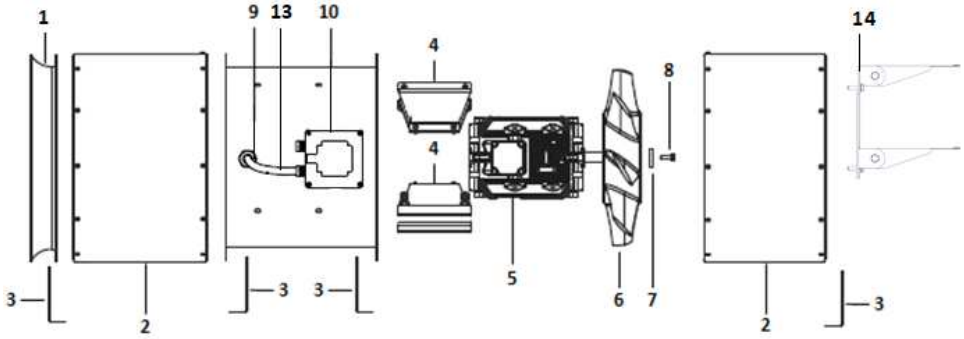
**Table of versions**

| Art. No. | name | Power supply | Power(kW) | Type |
|---|---|---|---|---|
| 422535301 | JFSR/2-315-075T | 400V, 50Hz | 0.75 | Single speed (Y) |
| 422535311 | JFSR/2-355-110T | 400V, 50Hz | 1.1 | Single speed (Y) |
| 422535321 | JFSR/2-400-150T | 400V, 50Hz | 1.5 | Single speed (Y) |
| 422535331 | JFSR/2-450-300T | 400V, 50Hz | 3 | Single speed (Y) |
| 422535306 | JFSR/2/4-315-075/015T | 400V, 50Hz | 0.75/0.15 | Two-speed (YY/Y) |
| 422535316 | JFSR/2/4-355-130/025T | 400V, 50Hz | 1.3/0.25 | Two-speed (YY/Y) |
| 422535326 | JFSR/2/4-400-180/037T | 400V, 50Hz | 1.8/0.37 | Two-speed (YY/Y) |
| 422535336 | JFSR/2/4-450-260/065T | 400V, 50Hz | 2.6/0.65 | Two-speed (YY/Y) |

**General description (simplified)**




A – inlet/outlet, safety grid
B – terminal box
C – mounting feet
D – sound attenuator
E – motor supply wire between motor and terminal box - with protecting metal conduit (not shown on picture)
F- deflector JFx




1 – confusor
2 – sound attenuator
3 – mounting feet
4 – motor mounting feet
5 – motor
6 – impeller
7 – bushing
8 – fastening elements
9 – cable gland
10 – housing
11 – fastening elements (not shown on picture)
12 – sealing (not shown on picture)
13 – motor supply wire between motor and terminal box - with protecting metal conduit
14 – deflector JFx

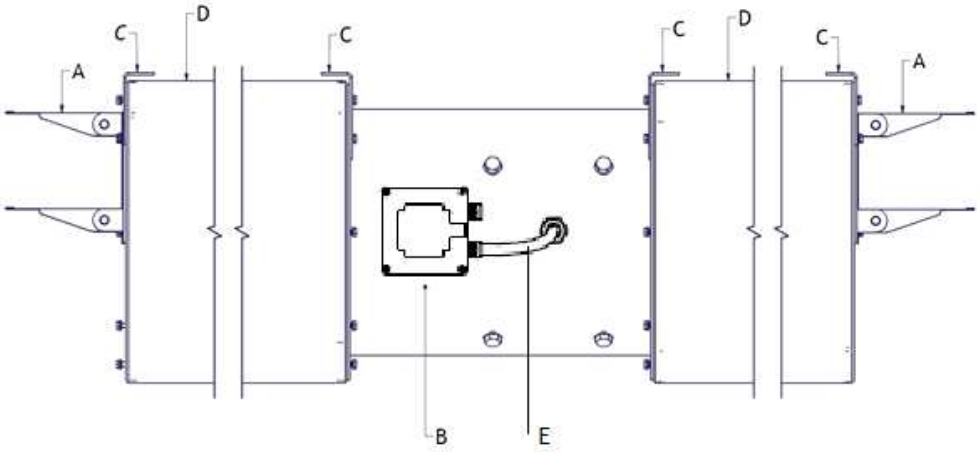
Confusor (1), housing (10), mounting feet (3) made of galvanized carbon steel. Sound attenuator (2) made of galvanized carbon steel, aluzinc steel, sealing mat and steel fastening elements. Motor mounting feet (4) made of stainless steel. Impeller (7) made of cast aluminium, stainless steel and fastening elements made of galvanized steel. Bushing (7) made of steel, fastening elements (7,11) made of steel and/or stainless steel. For sealing - sealing tapes (eg. EPDM) and/or sealing paste has been used.

**Schematic diagram of the fan with two deflector/ list of units**

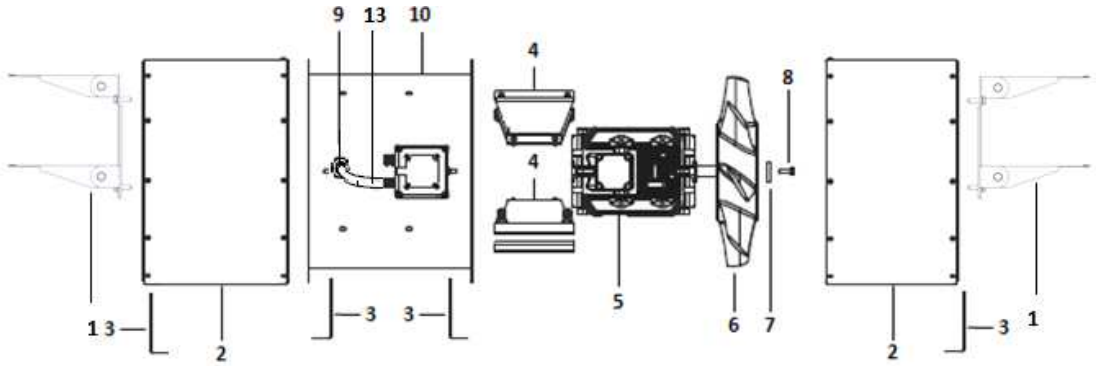
**Table of versions**

| Art. No. | name | Power supply | Power(kW) | Type |
|---|---|---|---|---|
| 422535302 | JFSR/2-315-075T | 400V, 50Hz | 0.75 | Single speed (Y) |
| 422535312 | JFSR/2-355-110T | 400V, 50Hz | 1.1 | Single speed (Y) |
| 422535322 | JFSR/2-400-150T | 400V, 50Hz | 1.5 | Single speed (Y) |
| 422535332 | JFSR/2-450-300T | 400V, 50Hz | 3 | Single speed (Y) |
| 422535307 | JFSR/2/4-315-075/015T | 400V, 50Hz | 0.75/0.15 | Two-speed (YY/Y) |
| 422535317 | JFSR/2/4-355-130/025T | 400V, 50Hz | 1.3/0.25 | Two-speed (YY/Y) |
| 422535327 | JFSR/2/4-400-180/037T | 400V, 50Hz | 1.8/0.37 | Two-speed (YY/Y) |
| 422535337 | JFSR/2/4-450-260/065T | 400V, 50Hz | 2.6/0.65 | Two-speed (YY/Y) |

**Ogólny opis urządzenia (uproszczony)**




A – deflector JFx
B – terminal box
C – mounting feet
D – sound attenuator
E – motor supply wire between motor and terminal box - with protecting metal conduit (not shown on picture)



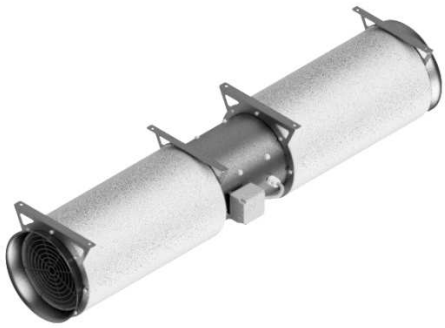

1 – deflector
2 – sound attenuator
3 – mounting feet
4 – motor mounting feet
5 – motor
6 – impeller
7 – bushing
8 – fastening elements
9 – cable gland
10 – housing
11 – fastening elements (not shown on picture)
12 – sealing (not shown on picture)
13 – motor supply wire between motor and terminal box - with protecting metal conduit

Housing (10), mounting feet (3) made of galvanized carbon steel. Sound attenuator (2) made of galvanized carbon steel, aluzinc steel, sealing mat and steel fastening elements. Motor mounting feet (4) made of stainless steel. Impeller (7) made of cast aluminium, stainless steel and fastening elements made of galvanized steel. Bushing (7) made of steel, fastening elements (7,11) made of steel and/or stainless steel. For sealing - sealing tapes (eg. EPDM) and/or sealing paste has been used.

**Appendix - F (Assembly)**

•Size 400-450

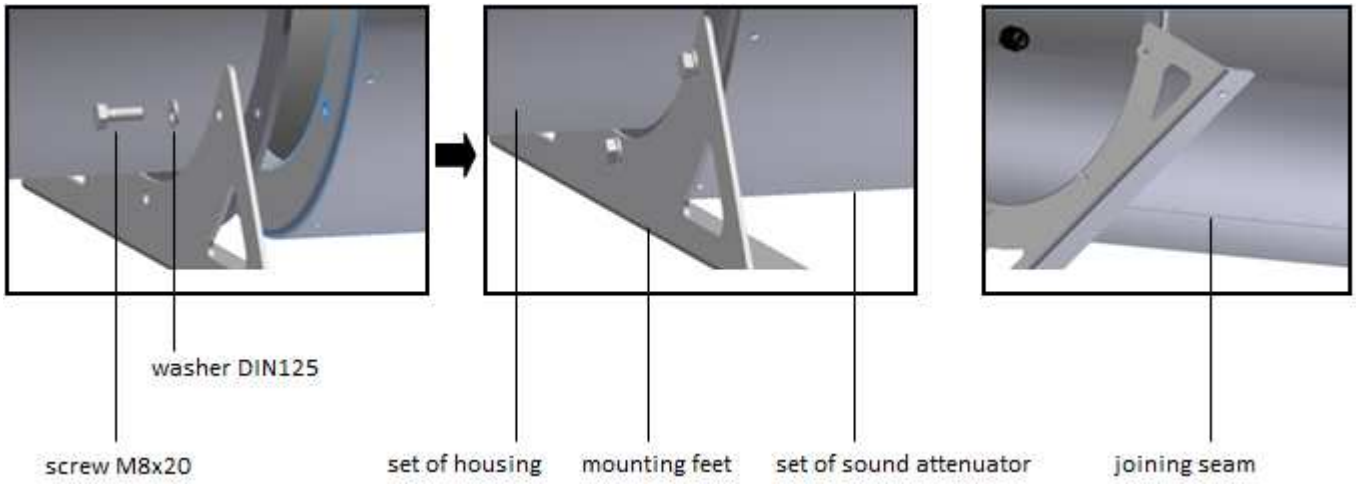
Fans in 400 and 450 size ale delivered in dismantled state. Before installation connect components according to following guidance:



**A.** Make sure, that all components have been delivered with the fan:

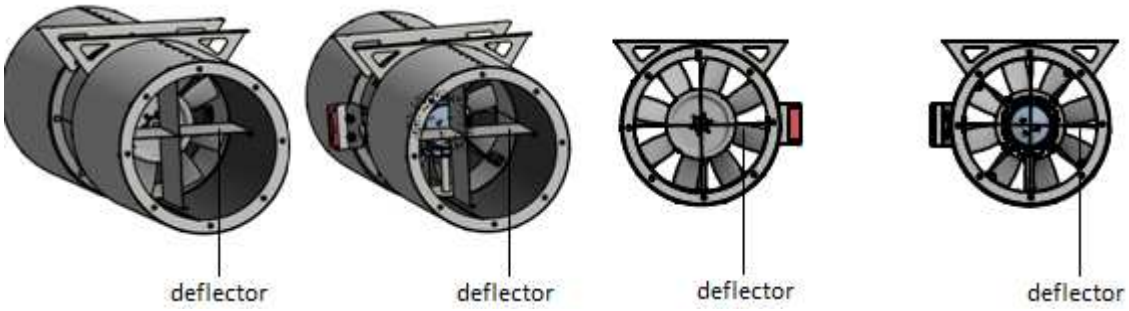

1. Set of housing with motor and impeller (1 pc.)
2. Set of sound attenuator with confusor and cover (2 pcs.)
3. Mounting foot (2 pcs.)
4. Screw M8x20 DIN 933 CL.8.8 (16 pcs.)
5. Washer M8 DIN125 (16 pcs.)

**B.** Connect elements according to following (use all holes of mounting foot)



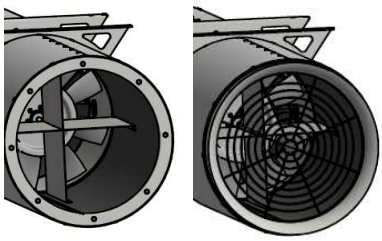

**Warning1**: Screws should be tighten with 21Nm torque.

**Warning2**: Sound attenuator should be placed in such way that seam of sheet joining faces a mounting foot. Deflectors should be directed according to following picture (view without confusor).

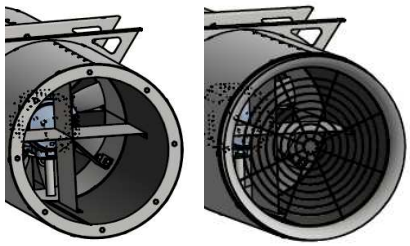


•Mounting and dismounting of confusor

Confusor can be dismounted in order to be maintained. Confusor mounting screws should be tightened with:
M6 screw - 10Nm torque
M8 screw - 21Nm torque



(confusor – impeller side)

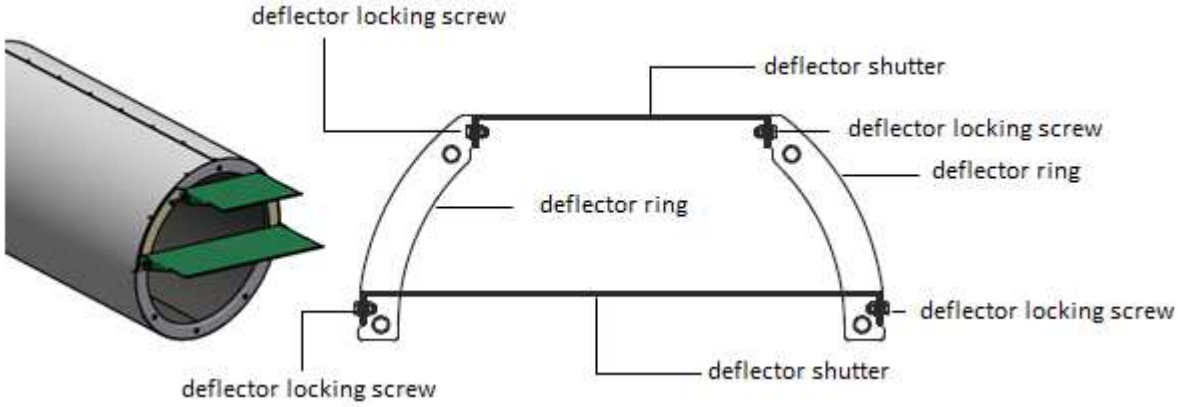


(confusor – motor side)

**Warning:** Confusor should be installed in same position as before dismounting.

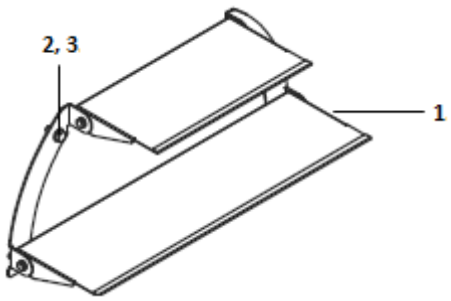
•Mounting of deflector

Fans are adapted to deflector mounting on inlet and/or outlet. It should be done according to following picture:




**Uwaga:** Tarcza oraz kierownica deflektora wykonane zostały ze stali węglowej ocynkowanej lub stali węglowej malowanej (w zależności od modelu).

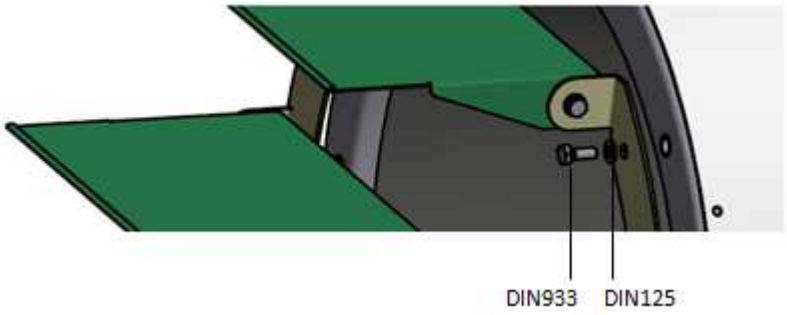
**A.** Dismount confusor.
**B.** Make sure, that all components have been delivered with deflector:

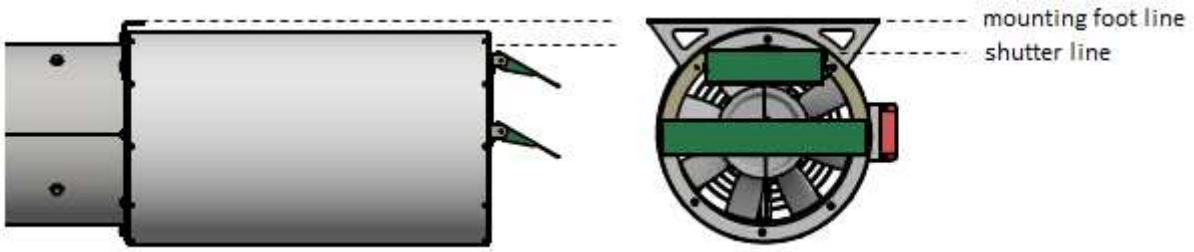



JFSR 315
1. Set of deflector (1 pc.)
2. Screw M6x20 DIN 933 KL.8.8 (4 pcs.)
3. Washer M6 DIN125 (4 pcs.)

JFSR 355 - 450
1. Set of deflector (1 pcs.)
2. Screw M8x20 DIN 933 KL.8.8 (4 pcs.)
3. Washer M8 DIN125 (4 pcs.)

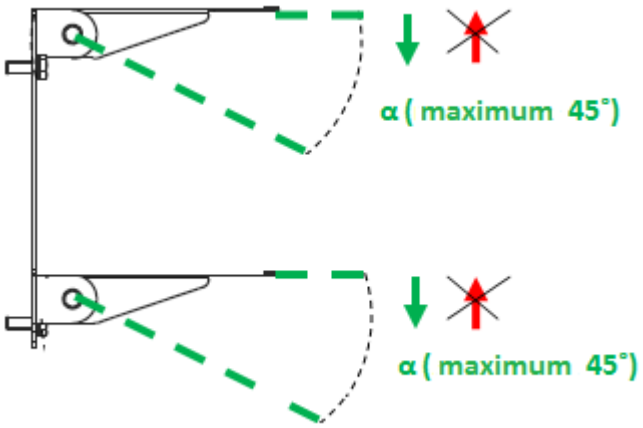
**C.** Mount deflector to the sound attenuator using attached fastening elements (use all mounting holes on the deflector ring).




**Warning1:** Mounting screws should be tightened with: M6 screw - 10Nm torque / M8 screw - torque 21Nm.
**Warning2:** Deflector should be installed in such way that shutter line is directed parallelly to mounting foot line (according to picture).

**C.** Set proper deflector angle and tightened locking screws.




**Warning1:** Set same angle for all shutters. Setting the shutter in upright position (above plane shown on picture) is forbidden.
**Warning2:** Deflector locking screws should be tightened with: M6 screw – 11,3Nm torque.

**Appendix - H (Certificate of Constancy of Performance)**

INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT
ul. FILTROWA 1, 00-611 WARSAW, POLAND
tel.:+ 48 (22) 57 96 167, + 48 (22) 57 96 168, fax: + 48 (22) 57 96 295
e-mail: certyfikacja@itb.pl, www.itb.pl

# CERTIFICATION MARK

The company

**VENTURE INDUSTRIES Sp. z o.o.**
**Mokra 27**
**05-092 Łomianki - Kiełpin**

being the manufacturer of the product

**Powered smoke and heat exhaust ventilator type JSFR**

is authorized to use
the ITB certification mark „WYRÓB BUDOWLANY"
during the period of validity of the certificate no. 1488-CPR-0582/W

WYRÓB BUDOWLANY

**1488-CPR-0582/W**

HEAD
of the Certification Department

Katarzyna Hatowska, M.Sc. Eng.

Warsaw, 07.02.2018

DIRECTOR
of Instytut Techniki Budowlanej

Robert Geryło, Ph. D.

NOTIFIED BODY No. 1488
INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT
ul. FILTROWA 1, 00-611 WARSZAWA
ph.: +48 (22) 57 96 167, +48 (22) 57 96 168, fax: +48 (22) 57 96 295
e-mail: certyfikacja@itb.pl, www.itb.pl

AC 020

# CERTIFICATE OF CONSTANCY OF PERFORMANCE

## 1488-CPR-0582/W

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

## Powered smoke and heat exhaust ventilator type JSFR

classified in accordance with EN 13501-4:2016

## $F_{400}120$

essential characteristics, general identification and intended use are described in the Annex No. Z-1488-CPR-0582/W which is an integral part of this certificate

placed on the market under the name or trade mark of:

**VENTURE INDUSTRIES Sp. z o.o.**
**ul. Mokra 27**
**05-092 Łomianki – Kiełpin**
**Poland**

and produced in the manufacturing plants:

**VENTURE INDUSTRIES Sp. z o.o.**
**ul.Mokra 27**
**05-092 Łomianki**
**Poland**
**and**
**VENTURE INDUSTRIES Sp. z o.o. Oddział Grudziądz**
**ul.Lotnicza 21A**
**86-300 Grudziądz**
**Poland**

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard:

## EN 12101-3:2015

under system 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the constancy of performance of the construction product.

This certificate was first issued on 26.01.2017 (updated on 07.02.2018) and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods, nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

HEAD
of the Certification Department

Katarzyna Hatowska, M.Sc. Eng.

INSTYTUT TECHNIKI BUDOWLANEJ

Warsaw, 07.02.2018

DIRECTOR
of Instytut Techniki Budowlanej

Robert Geryło, Ph. D.

NOTIFIED BODY No. 1488
INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT
ul. FILTROWA 1, 00-611 WARSZAWA
ph.: +48 (22) 57 96 167, +48 (22) 57 96 168, fax: +48 (22) 57 96 295
e-mail: certyfikacja@itb.pl, www.itb.pl

AC 020

ANNEX No. Z-1488-CPR-0582/W page 1/1 - which is integral part of the certificate no. 1488-CPR-0582/W

## Powered smoke and heat exhaust ventilator type JSFR

### List of essential characteristics of construction product according to EN 12101-3:2015

| No. | Essential characteristics of the product | Harmonized technical specification EN 12101-3:2015 | Regulatory classes | Essential characteristics |
|---|---|---|---|---|
| 1. | Operational reliability:<br>- application categories<br>- motor rating | 4.2.2<br>4.2.3 | According to Table 1of EN 12101-3:2015 and EN 60085 | - uninsulated<br>- adapted to work outside the smoke tank<br>- adapted to work in a horizontal position,<br>- dual-purpose<br>- uncooled with air supplied from the outside<br>- class of motor insulation H, ΔT 105K |
| 2. | Resistance to fire | 4.4 | According to EN 13501-4 | $F_{400}120$ |

**Declared intended use of product: smoke and heat control ventilation systems**

**General identification:**

| Variants | JFSR/2-315-075T | JFSR/2-355-110/025T | JFSR/2-400-150T | JFSR/2-450-300T |
|---|---|---|---|---|
| | JFSR/2/4-315-075/015T | JFSR/2/4-355-130/025T | JFSR/2/4-400-180/037T | JFSR/2/4-450-260/065T |
| Dimensional range [mm] | Ø 315 | Ø 355 | Ø 400 | Ø 450 |

**Detailed identification, scope and conditions of use are included in the classification report no. 01860/16/Z00NZP dated 19.10.2016**

HEAD
of the Certification Department

Katarzyna Hatowska, M.Sc. Eng.

INSTYTUT TECHNIKI BUDOWLANEJ

Warsaw, 07.02.2018

DIRECTOR
of Instytut Techniki Budowlanej

Robert Geryło, Ph. D.

**Appendix - G (Declaration of performance)**

# Declaration of performance

*Nr VI_002-CPR-2016*

Venture Industries Sp. z o.o.
ul. Mokra 27
05-092 Łomianki-Kiełpin
Polska

**1. Unique identification code of the product type**
Regulation (EU) No 205/2011 of the European Parliament and Council, Annex IV, Item 10 – Fixed firefighting equipment (fire alarm/detection, fixed firefighting, fire and smoke control and explosion suppression product).

Powered smoke and heat exhaust ventilator type JFSR
Classified: $F_{400}120$ (in accordance with EN 13501-4:2016-07)

**2. Type, batch or serial number of any other element allowing identification of the construction product as required under Article 11(4)**
Name: Powered smoke and heat exhaust ventilator
Type: JFSR
Model and serial number: all manufactured

**3. Intended use or uses of the construction product in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer**
Bifunctional device of fire protection for extraction of smoke and hot gases which operates in general ventilation and during fire

**4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5)**
Venture Industries Sp. z o.o.
ul. Mokra 27
05-092 Łomianki-Kiełpin
Polska

**5. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2):**
Not applicable

**6. System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR, Annex V**
System 1

**7. In case of the declaration of performance concerning a construction product covered by a harmonized standard:**

Notified body: BUILDING RESEARCH INSTITUTE, CERTIFICATION DEPARTMENT, ul. Filtrowa 1, 00-611, Warsaw, Poland, Notified body no. 1488 – according to following elements of System 1:

-determining the product type on the basis of type testing (including sampling) and descriptive documentation of the product;
-initial inspection of the manufacturing plant and factory production control
-continuous surveillance, assessment and evaluation of factory production control

Issued the Certificate of Constancy of Performance **No. 1488-CPR-0582/W**

**8. In case of the declaration of performance concerning a construction product, for which technical assessment was issued**
Not applicable

Signed and on behalf of the manufacturer by:

| Wojciech Stawski - Director | Kielpin 26.11.2019 | | VI_002-CPR-2016 | 1 of 2 |
|---|---|---|---|---|
| (name, job position) | (place and date of issue) | (signature) | (document No.) | (page No.) |

# Declaration of performance

*Nr VI_002-CPR-2016*

Venture Industries Sp. z o.o.
ul. Mokra 27
05-092 Łomianki-Kiełpin
Polska

**9. Declared performance**

| No. | Essential characteristics of the product | Harmonized technical specification EN 12101-3:2015 | Regullatory classes | Essential characteristics |
|---|---|---|---|---|
| 1. | Operational reliability:<br>- application categories<br>- motor rating | 4.2.2<br>4.2.3 | According to Table 1 of EN 12101-3:2015 and EN 60085 | - uninsulated<br>- adapted to work outside the smoke tank<br>- adapted to work in vertical position<br>- dual-purpose<br>- cooled with air supplied from the outside<br>- class of motor insulation H, ΔT 105K |
| 2. | Resistance to fire | 4.4 | According to EN 13501-4 | $F_{400}120$ |

**10. The performance of the product identified in points 1 and is in conformity with declared performance in point 9.**

This declaration of performance is issued under sole responsibility of the manufacturer identified in point 4.

Signed and on behalf of the manufacturer by:

| Wojciech Stawski - Director | Kiełpin 26.11.2019 | | VI_002-CPR-2016 | 2 of 2 |
|---|---|---|---|---|
| (name, job position) | (place and date of issue) | (signature) | (document No.) | (page No.) |