

DVNI...EC 30



Roof fan for exhaust air applications

Made in EU

LOT6



2018

Example configuration shown



CONTENTS

1.	FOREWORD	2
2.	IMPORTANT INFORMATION	2
3.	GENERAL SAFETY INSTRUCTIONS	3
4.	ADHERE TO THE FOLLOWING INSTRUCTIONS	6
5.	PRODUCT INFORMATION	6
6.	DELIVERY CONTENTS	7
7.	TECHNICAL DATA	7
8.	DIMENSIONS	8
9.	TRANSPORT AND STORAGE	8
10.	ASSEMBLY	9
11.	ELECTRICAL CONNECTION	13
12.	COMMISSIONING	15
13.	MAINTENANCE AND CLEANING	15
14.	LIFETIME AND DISPOSAL	18
15.	TROUBLESHOOTING	18

ruck Ventilatoren GmbH
Max-Planck-Str. 5
D-97944 Boxberg-Windischbuch
Tel. +49 7930 9211-300
Fax +49 7930 9211-166
info@ruck.eu
www.ruck.eu

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1. FOREWORD

Dear customers,

Thank you for choosing our device.

Before operating the unit, please read carefully these installation, operating and maintenance instructions. If you have any questions, please contact: (Contact details see page 1)

The data provided in these installation, operating and maintenance instructions are for the product description only. A statement about a certain condition or a suitability for a certain application cannot be derived from our information. The information does not release the user from his own assessments and examinations.

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Any disposal such as copying and distribution rights lies with us.

2. IMPORTANT INFORMATION

This manual contains important information on the safe and appropriate assembly, transport, commissioning, operation, maintenance, disassembly and simple troubleshooting of the product.

The product has been manufactured according to the accepted rules of current technology.

There is, however, still a danger of personal injury or damage to equipment if the following general safety instructions and the warnings before the steps contained in these instructions are not complied with.

- Read these instructions completely and thoroughly before working with the product.
- Keep these instructions in a location where they are accessible to all users at all times.
- Always include the operating instructions when you pass the product on to third parties.

2.1. Applicable Documents

The following documents and information on the exhaust fan must be observed in addition to the installation, operating and maintenance instructions:

Nameplate

Other applicable standards:

- DIN VDE 0100-100
- DIN EN 60204-1
- DIN EN ISO 13857
- DIN EN ISO 12100
- VDMA 24186-1

Available documents at www.ruck.eu

- Installation, operating and maintenance instructions
- Programming instruction FU (three-phase version)
- EC Declarations of conformity
- EC-Declaration of Incorporation (Directive 2006/42/EC)
- Commissioning report
- Call to Tender
- Dimensioned drawing
- Technical drawing DWG
- Technical drawing DXF
- 3D STEP

2.2. Provisions and regulations

When properly installed and operated, the device complies with the applicable standards and EU Directive at the time of its placing on the market.

In addition, observe generally valid, legal and other binding regulations of the European or national legislation as well as the regulations in your country for accident prevention and environmental protection.

2.3. Warranty and liability

Our devices are manufactured to the highest technical level in accordance with the generally accepted rules of technology. They are subject to constant quality controls. Because the products are being constantly developed, we reserve the right to make changes to the products at any time and without prior announcement. We assume no liability for the correctness or completeness of these installation, operating and maintenance instructions.

To ensure your warranty claims, it is imperative to provide a commissioning report and a maintenance record.

Warranty and liability claims for personal injury and property damage are excluded if they are due to one or more of the following causes:

- Improper use
- Improper mounting, commissioning, operation and maintenance
- Operating the device with defective and / or non-functional safety and protective devices
- Failure to observe the instructions regarding transportation, installation, operation and maintenance
- Unauthorized structural changes to the device
- Poor monitoring and replacement of maintenance parts
- Improperly performed repairs
- Disasters and force majeure

3. GENERAL SAFETY INSTRUCTIONS

Planners, plant engineers and operators are responsible for ensuring that the product is installed and operated correctly.

- Use our devices only in perfect technical condition.
- Check the device for obvious defects, such as cracks in the housing or missing rivets, screws, caps or other application-relevant defects.
- Only use the device in the power range specified in the technical data and on the nameplate.
- Protection against contact and being sucked in and safety distances should be provided in accordance with DIN EN 13857.
- Generally prescribed electrical and mechanical protection devices are to be provided by the client.
- Safety components must not be bypassed or put out of operation.
- The product may be operated by personnel with limited physical, sensory or mental capacities only if they are supervised or have been instructed by responsible personnel.
- Children must be kept away from the product.

3.1. Intended use

Our devices are incomplete machineries as defined in the EU Machinery Directive 2006/42/EC (partly completed machinery). The product is a not ready-for-use machine in terms of the machine directive.

It is intended exclusively for installation in a machine or in ventilation equipment and installations or for combination with other components to form a machinery or installation. The product may be commissioned only if it is integrated in the machinery/system for which it is designed and the machinery/system fully complies with the EC machinery directive.

Observe the operating conditions and performance limits specified in the technical data.

Conveying and ambient temperatures must be observed according to the technical data and the nameplate.

Intended use also implies that you have fully read and understood this manual.



Improper use may result in danger to the life and limb of the user or third parties or damage to the system or other property.

3.2. Improper use

Any use of the product other than described in chapter "Intended use" is considered as improper.

The following points are improper and dangerous:

- Delivery of explosive and flammable media or operation in potentially explosive atmospheres.
- The conveying of moist mediums (over 90% relative humidity).
- Delivery of aggressive and abrasive media.
- Operation without the duct system.
- Operation with closed air connections.
- The use on vehicles, aircrafts and ships.

3.3. Personnel qualifications

Assembly, commissioning, operation, disassembly and service (including maintenance and repair) require basic mechanical and electrical knowledge, as well as knowledge of the appropriate technical terms. In order to ensure operating safety, these activities may therefore only be carried out by qualified technical personnel or a person under the direction and supervision of qualified personnel. Qualified personnel are those who can recognize possible hazards and institute the appropriate safety measures due to their professional training, knowledge, and experience, as well as their understanding of the relevant conditions pertaining to the work to be done. Qualified personnel must observe the rules relevant to the subject area.

3.4. Safety instructions in this manual

In this manual, there are safety instructions before the steps whenever there is a danger of personal injury or damage to the equipment. The measures described to avoid these hazards must be observed.

Safety instructions are set out as follows:

- | | |
|--------------------------------|---|
| Safety sign (warning triangle) | - Draws attention to the risk. |
| ● Type of risk! | - Identifies the type or source of the hazard. |
| » Consequences | - Describes what occurs when the safety instructions are not complied with. |
| → Precautions | - States how the hazard can be avoided. |

Safety sign (warning triangle)



General warning!

Indicates possible hazardous situations. Failure to observe the warnings may result in personal injury and / or damage to property.



Electricity warning (hazardous voltage)!

Indicates possible hazards due to electricity. Failure to observe the warnings may result in death, injury and/or damage to property.



Hot surface warning!

Indicates possible hazards due to high surface temperatures. Failure to observe the warnings may result in personal injury and/or damage to property.



Finger-Crushing Warning!

Indicates possible hazards due to moving and rotating parts. Failure to observe the warnings may result in personal injury.



Overhead load warning!

Indicates possible hazards due to overhead loads. Failure to observe the warnings may result in death, injury and/or damage to property.



Follow important information!

Instructions for safe, optimum use of the product.



● General warning

- » Failure to observe the warnings may result in personal injury and / or damage to property.
- Unauthorized repairs may cause personal injury and / or damage to property, in which case the manufacturer's guarantee or warranty will not apply.



● Electricity warning (hazardous voltage)!

- » Failure to observe the hazard may result in death, injury or damage to property.
- Before performing any work on conductive parts, always disconnect the unit completely from the electricity supply and make sure that it cannot be switched back on again.



● Caution! Burning hazard.

- » Failure to observe the hazard may result in personal injury and/or damage to property.
- Do not touch the surface until the motor and heater have cooled.



● Never reach into the impeller or other rotating or moving parts.

- » Failure to observe the hazard may lead to serious injury.
- Work may only be performed once the impeller has come to a complete halt.



● Never reach into the impeller or other rotating or moving parts.

- » Failure to observe the hazard may lead to serious injury.
- Work may only be performed once the impeller has come to a complete halt.



● Never clean the internal space with flowing water or a high-pressure cleaner. Do not use aggressive or easily flammable products for cleaning (impellers/housing).

- Only use mild soapsuds. The impeller should be cleaned with a cloth or brush.

4. ADHERE TO THE FOLLOWING INSTRUCTIONS

4.1. General instructions

- Persons who assemble, operate, disassemble or maintain our devices must not be under the influence of alcohol, drugs or pharmaceuticals that may affect perception and responsiveness.
- Responsibilities for the operation, maintenance and regulation of the product should be clearly determined and observed so that there can be no unclear areas of responsibility with regard to safety.

4.2. Indications assembly

- Disconnect all of the product's poles from the mains before installing the product or connecting or removing plugs. Make sure that the product cannot be switched back on again.
- Lay cables and lines so that they cannot be damaged and no one can trip over them.
- Information signs must not be changed or removed.

4.3. Indications Commissioning

- Make sure that all electrical connections are either used or covered. Commission the product only if it is installed completely.
- The power switch must always be fully functional and easy accessible!

4.4. Indications during operation

- Only authorized personnel is allowed to operate the setting mechanisms of the components or parts, under the provision that the system is used as intended.
- In an emergency, or if there is a fault, or other irregularities, switch the equipment off and make sure it cannot be switched back on again.
- The technical data given on the rating plate must not be exceeded.

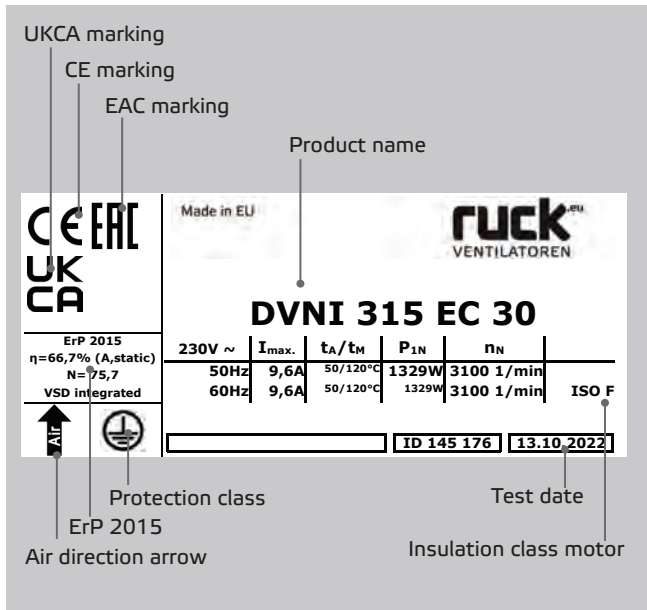
5. PRODUCT INFORMATION

Description:

- Roof fan for exhaust air applications
- Conveyed exhaust up to 120 °C
- Radial impeller
- Integrated grease tray with drain
- Motor outside the air stream (VDI 2052)
- Integrated thermal motor monitoring
- Isolator switch mounted on the housing, IP55
- Outdoor installation over heated rooms
- Installation position vertical
- Snow load class 0
- Connection flange dimensions according to DIN 24154R3
- The housing is made of seawater resistant aluminum.
- The backward curved impeller is made of powder-coated sheet steel.
- Electronically commutated (EC) internal rotor motor including power electronics in protection class IP54
- Housing soundproofed with 40mm thick mineral wool.

5.1. Nameplate

ATTENTION! The information on the nameplate must always be observed!



Legend:

- I_{max} Max. current consumption
- t_A / t_M Max. ambient temperature / Max. medium temperature
- P_{1N} Rated power consumption
- n_N Rated speed
- ErP Data ErP Conformity, if required according to Reg. 327/2011
- η Overall efficiency
- N Efficiency at the optimum energy efficiency
- ID Item number
- SN Serial number

6. DELIVERY CONTENTS

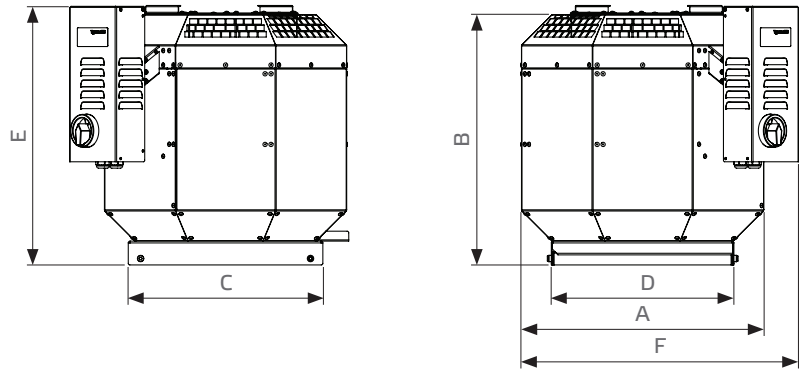
- 1 x roof fan
- 1 x Installation, operating and maintenance instructions
- EC Declarations of conformity
- EC-Declaration of Incorporation (Directive 2006/42/EC)

7. TECHNICAL DATA

Product name	Item number	Voltage U _N V	Frequency f _N Hz	Rated power consumption P _N W	Max. motor current I _{max} A	Max. ambient temperature t _A °C	Max. medium temperature t _M °C	Sound power inlet dB(A)	Sound power outlet dB(A)	Wiring diagram	Weight kg
DVNI 225 EC 30	145173	230V ~	50	662	3,1	40	120	80	80	147362	28,0
DVNI 250 EC 30	145174	230V ~	50	770	3,6	40	120	83	83	147362	28,5
DVNI 280 EC 30	145175	230V ~	50	798	3,7	40	120	81	81	147362	36,7
DVNI 315 EC 30	145176	230V ~	50	1329	9,6	50	120	85	89	147362	48,6
DVNI 355 EC 30	145177	230V ~	50	1418	10,1	50	120	82	82	147362	60,9
DVNI 400 EC 30	145178	230V ~	50	1196	8,8	50	120	78	80	147362	62,8
DVNI 450 EC 30	145180	230V ~	50	1240	8,9	50	120	82	78	147362	103,4

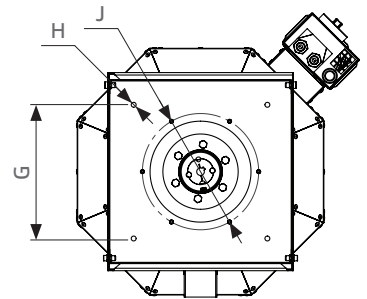
8. DIMENSIONS

DVNI...EC 30



Item number

145173	□534	467	363	341	(482)	(553)	□245	4xØ9	Ø213	6x M6x15
145174	□534	467	363	341	(482)	(553)	□245	4xØ9	Ø213	6x M6x15
145175	□651	512	464	441	(551)	(655)	□330	4xØ11	Ø286	6x M6x15
145176	□651	512	464	441	(551)	(655)	□330	4xØ11	Ø286	6x M6x15
145177	□804	565	625	602	(604)		□450	4xØ11	Ø438	6x M6x15
145178	□804	565	625	602	(604)		□450	4xØ11	Ø438	6x M6x15
145180	□984	737	697	674	(776)		□535	4xØ11	Ø438	6x M6x15

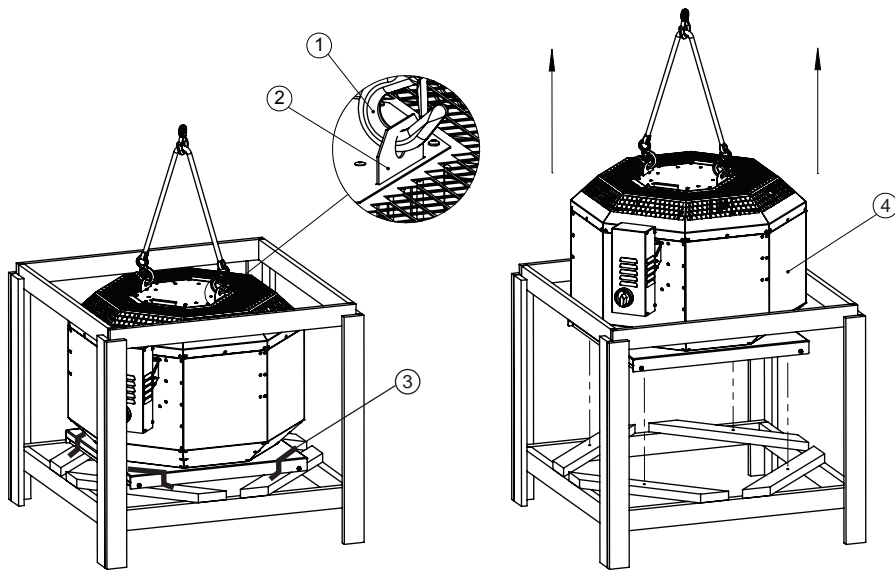


9. TRANSPORT AND STORAGE

Transport and storage should only be performed by specialist personnel in accordance with the assembly and operating manual and regulations in force.

The following points should be noted and followed:

- Check the delivery according to the delivery note to ensure it is complete and correct and check for any damage. Any missing quantities or damage incurred during transport should be confirmed by the carrier. No liability is accepted if this is not observed.
- For weight see technical data
- It should be transported with suitable lifting equipment in the original packaging or on the transport equipment indicated.
- If transported with a forklift, it should be ensured that the product is resting with the basic profile or base frame completely on the forks or on a pallet and the product's centre of gravity is between the forks.
- The driver must be authorized to drive a forklift.
- Do not go beneath the suspended load.
- Avoid damage or deformation of the housing.
- The product must be stored in a dry area and protected from the weather in the original packaging. Open pallets should be covered with tarpaulins. Even weatherproof modules should be covered because their weather resistance is only guaranteed after complete installation. If moisture has penetrated into the original packaging, remove it immediately.
- Storage temperature between +5 °C and +40 °C. Avoid severe temperature fluctuations.
- If the product has been in storage for more than a year, check the smooth running of impellers and valves by hand.



Lift the roof fan out of the packaging:

- Insert crane hook (1) into the two eyehooks (2) on the roof fan
- Release transport locks (3) 4x
- Lift the roof fan (4) out of the packaging (see Fig.)

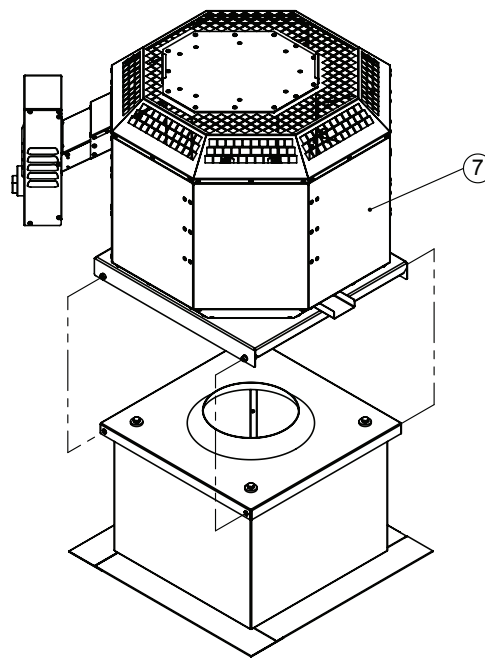
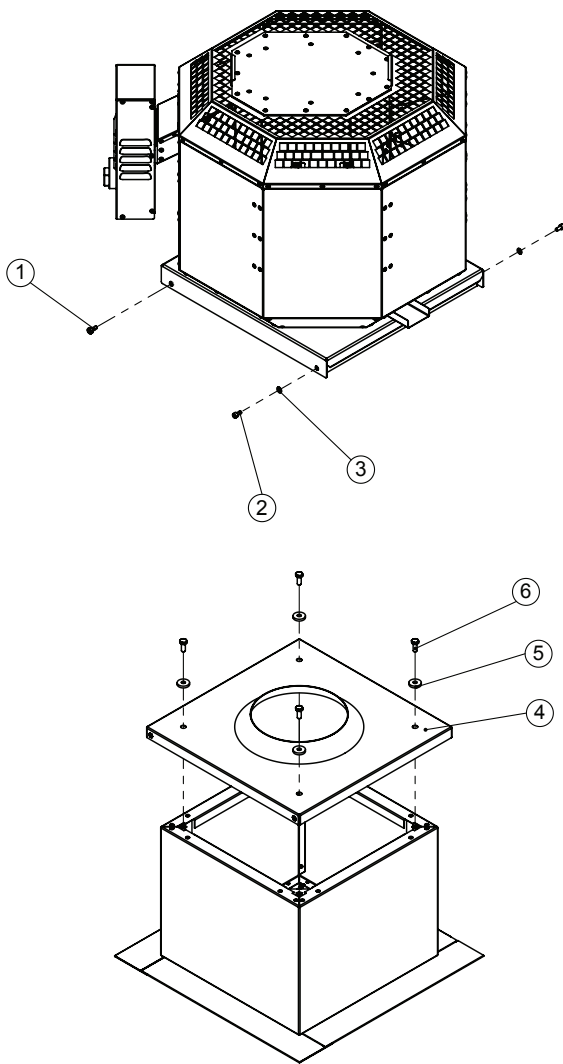
10. ASSEMBLY

Assembly work may only be performed by specialist personnel in accordance with the installation and operating manual and the regulations and standards in force.

The following points should be noted and followed:

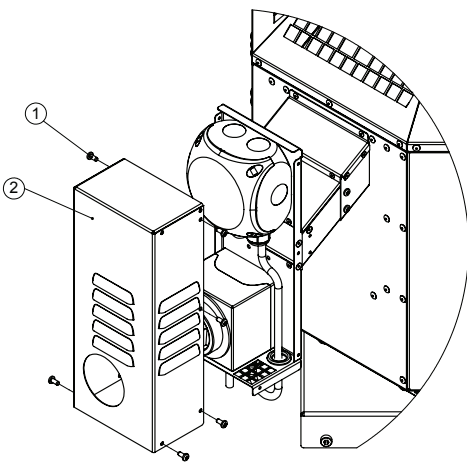
- The foundation must be even and levelled. It must not exhibit unevenness or a slope in any direction.
- Set up and align the machine with the aid of a water level. A perfect function of the device can be guaranteed only if levelled mounted.
- Only suitable installation aids, in accordance with regulations, should be used.
- The device must be installed in such a way that it is easily accessible for maintenance and cleaning purposes.
- The unit should only be installed with authorized and suitable fastening materials at all fastening points.
- Do not distort the unit when installing.
- Just use the indicated mounting and fixing places. No holes should be made in the housing or any screws screwed into it.
- The duct system must not be supported on the housing.
- For structure-borne sound decoupling, a flexible connection is recommended when connected on a duct system.
- The length of straight tube before fan must be at least 2.5 times the fan diameter

10.1. Mounting on roof socket (DSF)



- Release screws and washers (1), (2) and (3) on both sides
- Remove the nozzle plate (4)
- Mount the nozzle plate (4) with hexagonal screws and sealing washers (5)+(6) on roof socket (DSF)
- (If required, it is possible to install further accessories at this point, see 11.3 Installation examples with accessories)
- Set the roof fan (7) on the nozzle plate (4)
- Secure the roof fan with screws and washers (1), (2) and (3)

10.2. Mounting of electrical connection



Connection power supply:

- Unscrew the sheet metal screws (1)
- Remove cover (2)
- Perform the wiring according to the terminal diagram