

# Instruction Manual

## Radial Fan

RV 145 P, RV 241 P, RV 270 P



RV 145 P



RV 270 P



RV 241 P

RV-SERIES

## Imprint

### Product identification

Radial Fan	Item number
RV 145 P	6262014
RV 241 P	6262024
RV 270 P	6262027

### Manufacturer

Stürmer Maschinen GmbH  
Dr.-Robert-Pfleger-Str. 26  
D-96103 Hallstadt

Fax: 0951 96555-55

E-Mail: info@unicraft.de  
Internet: www.unicraft.de

### Indications regarding the operating instructions

Original instruction

Edition: 01.03.2019  
Version: 1.02  
Language: English

Author: FL/KP

### Indications regarding the copyright

Copyright © 2019 Stürmer Maschinen GmbH, Hallstadt, Germany.

The contents of these operating instructions are the sole property of the company Stürmer.  
Passing on as well as copying of this document, the use and distribution of its content are prohibited if not explicitly permitted. Contraventions are liable to compensation.

Subject to technical modifications and error.

## Contents

<b>1 Introduction .....</b>	<b>3</b>
1.1 Copyright .....	3
1.2 Customer service.....	3
1.3 Limitation of liability.....	3
<b>2 Safety.....</b>	<b>3</b>
2.1 Symbol explanation .....	3
2.2 Intended Use .....	4
2.3 Personal protective equipment.....	4
2.4 Safety labels on the radial fan .....	4
2.5 General safety informations.....	5
<b>3 Technical Data .....</b>	<b>5</b>
3.1 Type plate .....	5
<b>4 Transport, Packaging and Storage.....</b>	<b>6</b>
4.1 Transport .....	6
4.2 Packaging .....	6
4.3 Storage .....	6
<b>5 Electrical connection .....</b>	<b>6</b>
5.1 Connecting the fan.....	6
5.2 Conditions for installation.....	6
<b>6 Description of the device.....</b>	<b>7</b>
<b>7 Operation .....</b>	<b>7</b>
<b>8 Maintenance and repair .....</b>	<b>7</b>
8.1 Care by cleaning.....	7
8.2 Maintenance and Repair.....	8
<b>9 Disposal, recycling of used equip-ment .....</b>	<b>8</b>
9.1 Decommission .....	8
9.2 Disposal of electrical equipment.....	8
<b>10 Troubleshooting .....</b>	<b>8</b>
<b>11 Spare parts.....</b>	<b>9</b>
11.1 Ordering spare parts.....	9
<b>12 Spare parts drawings.....</b>	<b>10</b>
<b>13 Electrical circuit diagrams.....</b>	<b>11</b>
<b>14 EC Declaration of Conformity .....</b>	<b>12</b>
<b>15 Notes .....</b>	<b>13</b>

## 1 Introduction

You have made a good choice by purchasing the UNICRAFT radial fan.

### **Read the operating manual thoroughly before commissioning the machine.**

It gives you information about the proper commissioning, intended use and safe and efficient operation and maintenance of your radial fan.

The operating manual is part of the radial fan. Always keep this operating manual in the location where your radial fan is being operated. All local accident prevention regulations and general safety instructions for the operating range of your radial fan must also be complied with.

### 1.1 Copyright

The contents of this manual are protected by copyright. Their use is permitted when using the radial fan. Any further use is not permitted without the written permission of Stürmer GmbH.

We report for the protection of our products brand, Patent and design rights, if this is possible in individual cases. We vigorously oppose any infringement of our intellectual property.

### 1.2 Customer service

Please contact your dealer if you have any questions about your radial fan or technical information. We are happy to help you with expert advice and information

#### **Germany:**

Stürmer Maschinen GmbH  
Dr.-Robert-Pfleger-Str. 26  
D-96103 Hallstadt

#### **Repair - Service:**

Fax: 0049 (0) 951 96555-111  
E-Mail: [service@stuermer-maschinen.de](mailto:service@stuermer-maschinen.de)

#### **Ordering spare parts:**

Fax: 0951 96555-119  
E-Mail: [ersatzteile@stuermer-maschinen.de](mailto:ersatzteile@stuermer-maschinen.de)

We are always interested in information and experiences that arise from the application and can be valuable for the improvement of our products.

## 1.3 Limitation of liability

All information and instructions in this manual have been compiled taking into account the applicable standards and regulations, the state of the art as well as our many years of knowledge and experience.

In the following cases, the manufacturer assumes no liability for damages:

- Non-observance of the operating instructions,
- Inappropriate use
- Use of untrained staff,
- Unauthorised modifications
- Technical changes,
- Use of not allowed spare parts.

The actual scope of delivery may differ from the explanations and illustrations described here for special versions, when using additional order options or due to the latest technical changes.

The obligations agreed in the delivery contract, the general terms and conditions as well as the delivery conditions of the manufacturer and the legal regulations valid at the time of the conclusion of the contract apply.

## 2 Safety

This section provides an overview of all important safety packages for the protection of the operating personnel as well as for safe and fault-free operation. Other task based safety notes are included in the paragraphs of the individual phases of life.

### 2.1 Symbol explanation

#### **Safety instructions**

The safety notes in these operating instructions are highlighted by symbols. The safety notes are introduced by signal words which express the concern of the risk.



#### **DANGER!**

This combination of symbol and signal words indicates an imminently dangerous situation which may lead to death or severe injuries if they are not avoided.



#### **WARNING!**

This combination of symbols and signal words indicates a possibly dangerous situation which may lead to death or severe injuries if they are not avoided.



### CAUTION!

This combination of symbol and signal words indicates a possibly dangerous situation which may lead to minor or light injuries if they are not avoided



### ATTENTION!

This combination of symbol and signal words indicates a possibly dangerous situation which may lead to property and environmental damages if they are not avoided.



### NOTE!

This combination of symbol and signal words indicates a possibly dangerous situation which may lead to property and environmental damages if they are not avoided.

#### Tips and recommendation



#### Tips and recommendation

This symbol highlights useful tips and recommendation as well as information for all efficient and trouble-free operation.

It is necessary to observe the safety notes written in these operating instructions in order to reduce the risk of personal injuries and damages to property.

## 2.2 Intended Use

The fan is used exclusively for extracting and distributing air, for smoking and drying rooms, as well as for cooling and drying objects. It is not fully protected and is not intended for outdoor use.

The fan may only be operated by instructed persons.

Proper use also includes compliance with all information in this manual. Any use beyond the intended use or otherwise is considered misuse.

For structural and technical changes to the radial fan, the company Stürmer Maschinen GmbH assumes no liability.

Claims of any kind due to damage due to improper use are excluded.

## 2.3 Personal protective equipment

The personal protective equipment serves to protect persons against impairments of safety and health while working. The staff member has to wear personal protective equipment while performing different tasks on and with the machine which are indicated in the individual paragraphs of these instructions.

The personal protective equipment is explained in the following paragraph::



### Head protection

The industrial helmet protects the head against falling objects and bumping against fixed objects.



### Protective gloves

The protective gloves are used to protect the hands from sharp-edged components, as well as from friction, abrasions or deeper injuries.



### Safety boots

The safety shoes protect the feet against bruising, falling parts and slipping on slippery surfaces.



### Protective clothing

Protective clothing is tight-fitting work clothing, with no protruding parts, with low tear resistance.

## 2.4 Safety labels on the radial fan

The following safety markings are attached to the radial fan (Fig. 1), which must be observed and followed:

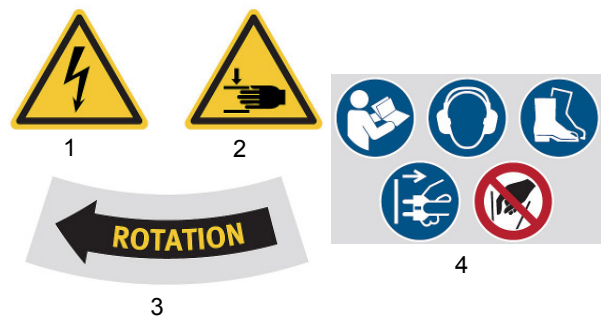


Fig. 1: Safety labels

The safety markings attached to the machine must not be removed. Damaged or missing safety markings can lead to incorrect actions, personal injury and damage to property.

They must be replaced immediately. If the safety markings are not recognisable and comprehensible at first glance, the radial fan must be taken out of operation until new safety markings have been applied.

## 2.5 General safety informations

Please note the following:

- Use the guards and secure them securely. Never work without guards and get them working.
- Always keep the fan and working environment clean. Ensure adequate lighting.
- The fan must not be modified in design and should not be used for purposes other than those specified by the manufacturer.
- Never work under the influence of concentration-disturbing illnesses, fatigue, drugs, alcohol or medicines.
- Keep children and persons unfamiliar with the ventilator away from their working environment.
- Do not pull on the mains lead to pull the plug out of the socket. Protect the cable from heat, oil and sharp edges.
- Never use the power cable to move or lift the fan.
- Eliminate disturbances that affect safety immediately.
- Never immerse the appliance in water for cleaning or use water jets.
- Make sure that no parts are damaged on the fan before each use. Damaged parts must be replaced immediately to avoid any danger.
- Do not insert objects into the openings. Do not use the device with blocked openings; keep it free of dust, lint, hair and anything that can reduce the airflow. Keep your hair, clothing, fingers, and body parts away from openings and moving parts.
- Do not drop or throw. Such treatment can cause damage to components and cause dangerous situations.
- Do not immerse in water or stand in water. There is a risk of electric shock. To avoid electric shock, do not expose the device to rain - store indoors only. Do not expose the device to frost temperatures.
- Machines can cause explosions when they are close to flammable materials or vapors. Do not use or store this product near fuels, flour, dust, thinner or other flammable materials.
- Do not use flammable cleaning agents to clean this device.
- Do not overload the fan! You work better and safer in the specified performance range.
- Do not hang the fan on the wall or ceiling.
- Always use the fan with the protective cover installed to avoid contact with the propeller.
- Do not look into the tuyere. Spent particles can be dangerous.
- Operate the device on a flat and stable surface to prevent it from falling and to prevent injury or damage.
- Only use original spare parts and accessories to avoid possible dangers and accident risks.

## 3 Technical Data

Model	RV 145 P	RV 241 P	RV 270 P
Length	275 mm	465 mm	495 mm
Width / Depth	300 mm	425 mm	490 mm
Height	320 mm	465 mm	470 mm
Weight	3,5 kg	11,5 kg	16 kg
Current draw S1	62 W	370 W	800 W
Power output	53 W	315 W	750 W
Motor speed	1300min <sup>-1</sup>	1100min <sup>-1</sup>	1400min <sup>-1</sup>
Current consumption	0,35 A	3,2 A	5,2 A
Supply voltage	230 V	230 V	230 V
Cable length	4,5 m	4,5 m	4,5 m
Max. air flow	570 'm³/h	1900/1730/1550 'm³/h	2380/2200/2040 'm³/h
Outlet size	233x67 mm	382x93 mm	423x88 mm
Ø Rotor	143 mm	241 mm	274 mm
Air speed	9.2 m/s	17.6 m/s	29.1 m/s
Intake diameter	127 mm	191 mm	288 mm
Sound pressure level	24 db (A)	42 db (A)	55 db (A)

### 3.1 Type plate



<b>Radialventilator</b> Radial ventilator			
Typ Type	RV 145 P	Serien-Nr. Serial no.	
Artikel-Nr. Item no.	6262014	Baujahr Year of manufacture	
Aufnahme-Motorleistung P1 Input motor power	62 W	Netzanschluss Power connection	230 V / AC ~ / 50 Hz
Abgabe-Motorleistung P2 Output motor power	53 W	Stromaufnahme Current consumption	0,35 A
 www.unicraft.de		Stürmer Maschinen GmbH, Dr.-Robert-Pfleger-Str. 26, 96103 Hallstadt, Deutschland / Germany	

Fig. 2: Type plate RV 145 P

## 4 Transport, Packaging and Storage

### 4.1 Transport

Check the radial fan after delivery for visible transport damage. If you discover any damage, immediately report it to the transport company or the dealer.



#### NOTE!

Protect the device from moisture.

### 4.2 Packaging

All packaging materials and packaging aids used are recyclable and must always be recycled.

Packing components made of cardboard are shredded for waste paper collection.

The foils are made of polyethylene (PE), the upholstery parts made of polystyrene (PS). You can hand over these substances to a recycling center or to the disposal company responsible for you.

### 4.3 Storage

Clean the radial fan, oil the bearings and store it in a frost-free and dry environment. Do not place anything on the radial fan.

For storage, an ambient temperature of -25°C to +55°C should be maintained. The ambient temperature can be up to +70°C for a short period of intermediate storage.

## 5 Electrical connection

### 5.1 Connecting the fan

Step 1: Make sure the fan is off before connecting the power cord.

Step 2: Insert the plug into the socket, making sure that the specified voltage matches the device.



#### DANGER!

Incorrect connection of the grounding can lead to electric shocks. If you are in doubt about whether the device has been properly grounded, consult a qualified electrician or service technician. Do not make any changes to the supplied plug of the device if it does not fit into your outlet; Have a proper outlet installed by a qualified electrician. This device operates with a standard of 2.0 / 2.5 / 3.0A, 230V, 50Hz AC. Voltages below 220 V or above 240 V can seriously damage the motor.



#### DANGER!

Use only three-conductor 16/3 or larger diameter approved extension cords that have a grounded, three-contact plug and three-pin connectors that match the device's plug. Replace or repair defective cables.

### 5.2 Conditions for installation

To ensure safe operation of the fan and to achieve a long service life, the following points must be observed:

- The ambient temperature should be between +5 and + 55 ° C. Furthermore, an ambient temperature of + 50 ° C in continuous operation should not be exceeded.
- The humidity must be below 60%.



## 6 Description of the device

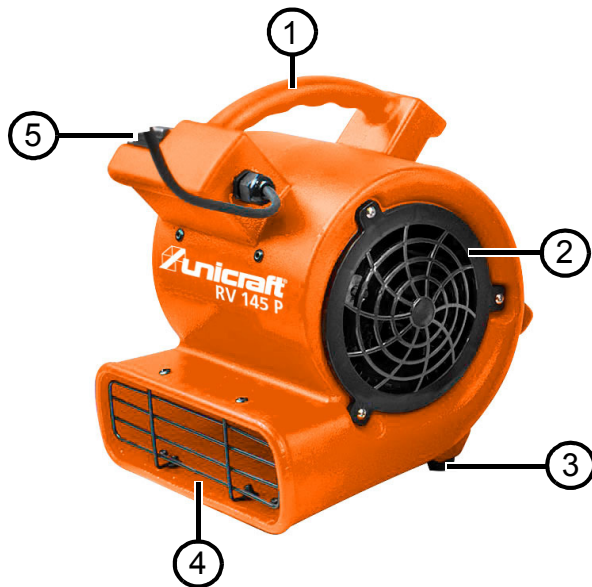


Fig. 3: Description of the device RV 145 P

- 1 Carrying handle
- 2 Air intake
- 3 Base
- 4 Air outlet
- 5 ON / OFF switch

## 7 Operation



**Use rotective gloves!**



**Wear protective clothing!**



**DANGER!**

**Risk of electric shock!**

Contact with live components may result in fatal injury.



**CAUTION!**

**Danger of crushing!**

Improper work on the radial fan may result in injury to fingers and hands. Never insert your fingers into the protective grille for the impeller!



**ATTENTION!**

- The device is not to be used in potentially explosive atmospheres.
- The device must not be operated in humid work-places or outdoors in wet conditions.



**DANGER!**

Children must be under supervision and must not play with the device!

Step 1: Use a hose of sufficient size to connect the fan.

Step 2: To ensure trouble-free operation, ensure adequate air supply.

Step 3: Connect the machine as described in chapter 5.1. described. When you stop using the fan, disconnect the fan from the mains. Be sure to pull the plug, not the cable, to pull the plug out of the socket.

Step 4: Turn the machine on and off. In normal operation, always use these switches to turn the machine on or off. Do not move the device during operation.



**NOTE!**

It is recommended to use high speed during dry operation and low speed during normal operation.

## 8 Maintenance and repair

### 8.1 Care by cleaning

The radial fan must always be kept in a clean condition.



**ATTENTION!**

Before starting cleaning, maintenance and repair work, switch off the appliance and disconnect the mains plug.



**Use rotective gloves!**



**NOTE!**

Never use aggressive cleaning agents for any cleaning work. This can damage or destroy the device.

Clean all plastic parts and painted surfaces with a soft, damp cloth and some neutral detergent. The air intake must be cleaned regularly from dust and dirt. Remove lint and dust from the fan, motor and sides with the help of a vacuum cleaner.

## 8.2 Maintenance and Repair



### DANGER!

- Maintenance and repair work may only be carried out by qualified personnel.
- Only use original spare parts in case of repair.
- After maintenance/repair, all safety devices must be reattached to the device before it can be put into operation.

If the radial fan does not work properly, contact a dealer or our customer service. The contact details can be found in chapter 1.2 Customer Service. All protective and safety equipment must be reinstalled immediately after repair and maintenance work has been completed.

## 9 Disposal, recycling of used equipment

In your own interest and in the interest of the environment, please ensure that all components of the equipment are only disposed of in the designated and approved ways.

### 9.1 Decommission

Disused equipment must be taken out of service immediately in order to avoid later misuse and endangering the environment or people.

Step 1: If necessary, disassemble the radial fan into manageable and usable assemblies and components.

Step 2: Guide the device components and operating materials to the appropriate disposal routes.

### 9.2 Disposal of electrical equipment

Please note that electrical appliances contain a variety of recyclable materials as well as environmentally harmful components. Make sure that these components are disposed of separately and properly.

In case of doubt, please contact your municipal waste disposal. If necessary, the help of a specialized waste disposal company can be used for the treatment.

## 10 Troubleshooting



### DANGER!

Switch off the device and disconnect the mains plug before starting the troubleshooting!

Fault	Possible Cause	Removal
Engine is not working	1. Wrong power supply  2. Defective switch  3. Air inlet or outlet blocked	1. Check power supply  2. Check switch  3. Expose air inlet and outlet
Slow fan operation	1. Engine defective  2. Defective power line	1. Check engine  2. Check mains cable
Slow airflow	1. Air intake blocked	1. Check air intake
Fuse triggers after starting the fan	1. Extension cable too long  2. Wrong mains voltage	1. Use a shorter cable  2. Check mains voltage
Noises in the blower	Blower defective	Check blower
Fan vibrates strongly	1. Broken shaft  2. Defective fan wheel  3. Pollution of the fan	1. Replace shaft  2. Replace fan  3. Clean fan and fan
Irregular running of the fan wheel	Strong impact or impact on the case	Disassemble housing and replace. Check engine



## 11 Spare parts



### GEFAHR!

#### Risk of injury due to use of incorrect spare parts!

The use of incorrect or faulty replacement parts may cause danger to the operator and cause damage and malfunction.

- Only use original spare parts from the manufacturer or replacement parts approved by the manufacturer.
- In case of doubt, always contact the manufacturer



### Tips and recommendations

If non-approved spare parts are used, the manufacturer's warranty expires.

### 11.1 Ordering spare parts

The spare parts can be obtained from the dealer or directly from the manufacturer. The contact details are in chapter 1.2 Customer Service.

Specify the following key data for inquiries or ordering spare parts:

- device type
- item number
- Position number
- Construction year
- amount
- desired shipping method (post, freight, sea, air, express)
- delivery address

Spare parts orders without above given information can not be considered. If the shipping method is missing, shipping will be at the discretion of the supplier.

Information on the device type, article number and year of manufacture can be found on the type plate, which is attached to the device.

### Example

The engine for the radial fan RV 145 P must be ordered. The engine has item number 8 in the spare part drawing 1.

- Type of device: **Radial Fan RV 145 P**
- Item number: **6262014**
- Drawing number: **1**
- Position number: **08**

Your order number is: **0-6262014-1-08**

The order number consists of the item number, the position number and one digit in front of the item number.

- Place the digit 0 in front of the item No.
- Also place the digit 0 in front of the position No 1 through 9.

### The article number of your device:

RV 145 P	6262014
RV 241 P	6262024
RV 270 P	6262027

## 12 Spare parts drawings

In case of service, the following drawings shall help to identify the necessary spare parts. If necessary, send a copy of the parts drawing with the marked components to your authorised dealer.

### Spare parts drawing 1 - RV 145 P

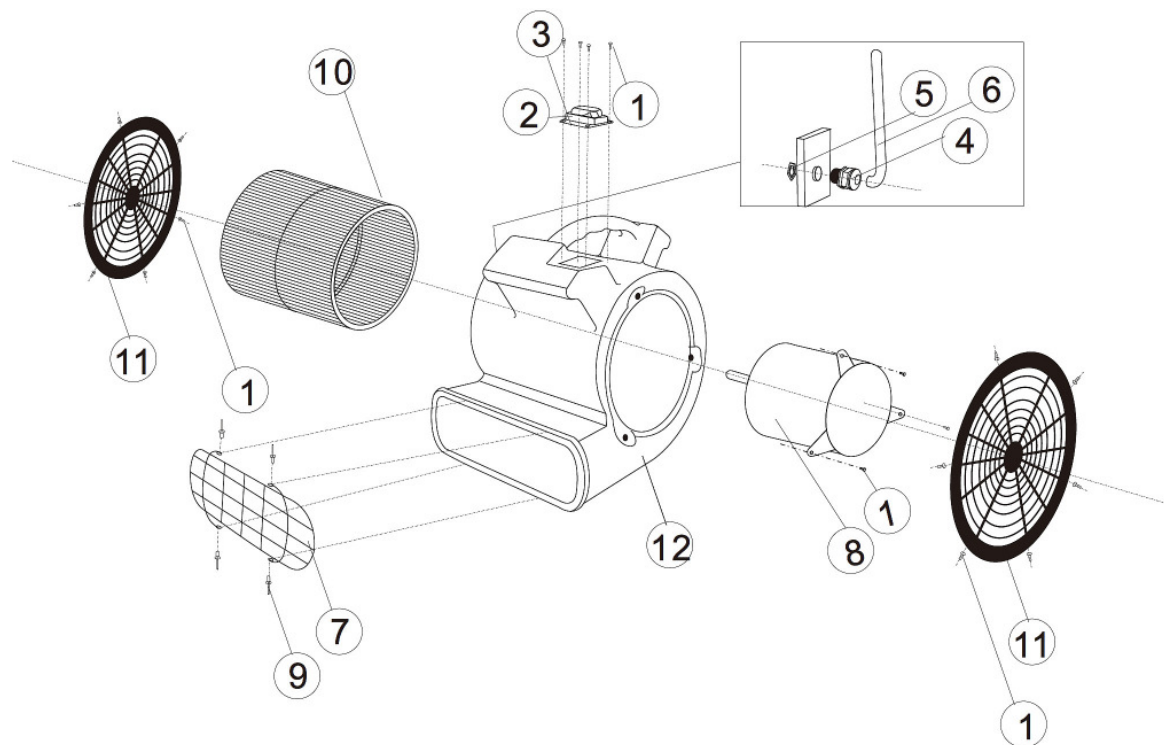


Fig. 4: Spare parts drawing - RV 145 P

### Spare parts drawing 2 - RV 241 P

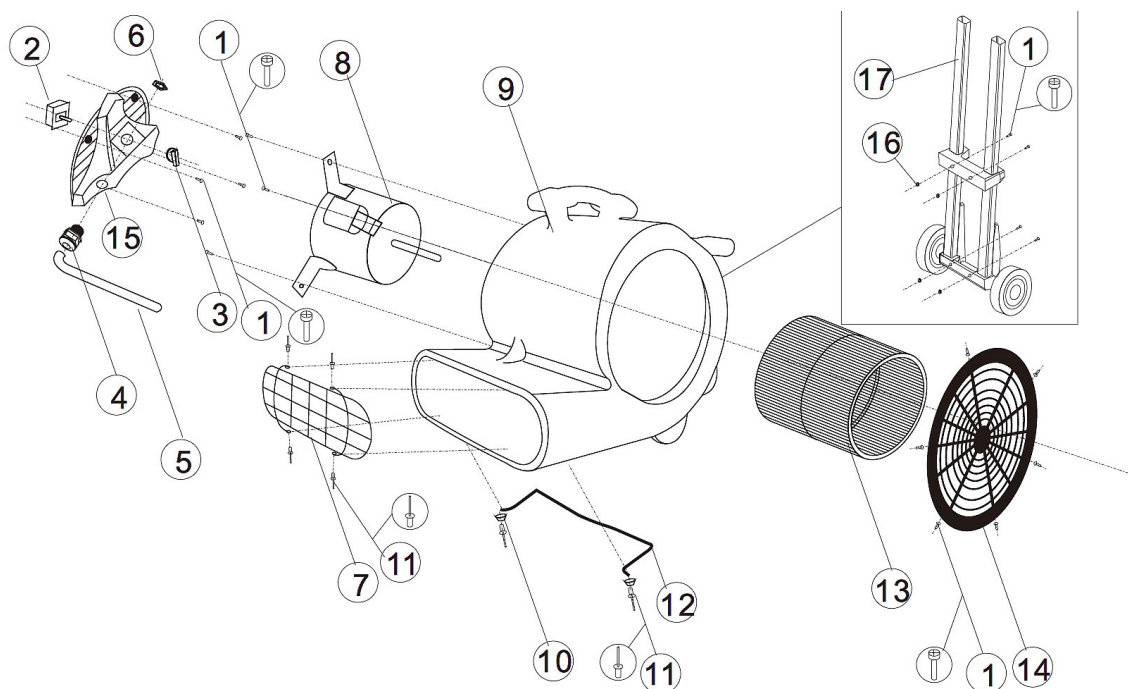


Fig. 5: Spare parts drawing - RV 241 P

### Spare parts drawing 3 - RV 270 P

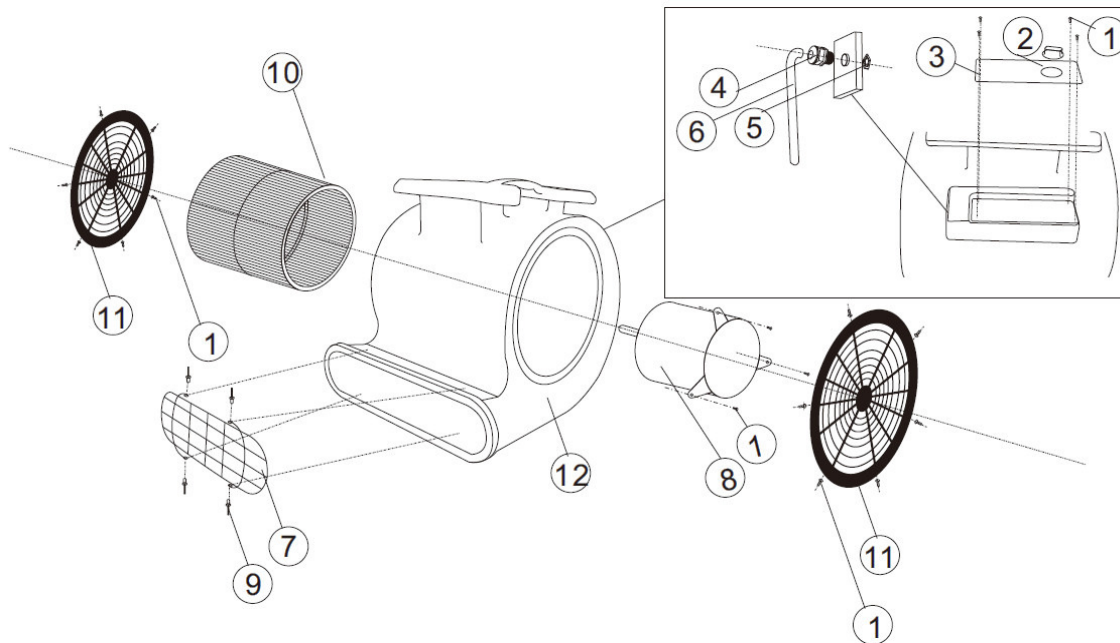


Fig. 6: Spare parts drawing - RV 270 P

## 13 Electrical circuit diagrams

### Electrical circuit diagram RV 145 P

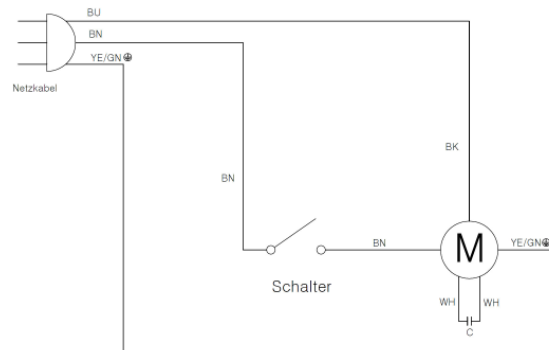


Fig. 7: Electrical circuit diagram RV 145 P

### Electrical circuit diagram RV 241 P and RV 270 P

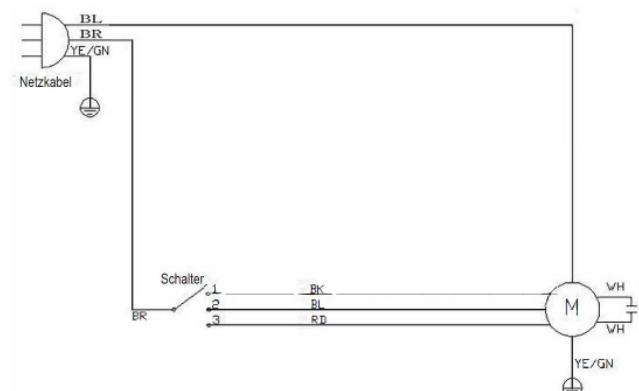


Fig. 8: Electrical circuit diagram RV 241 P and RV 270 P

## 14 EC Declaration of Conformity

According to Machinery Directive 2006/42/EC Annex II 1.A

**Manufacturer / distributor:** Stürmer Maschinen GmbH  
Dr.-Robert-Pfleger-Str. 26  
D-96103 Hallstadt

hereby declares that the following product

**Product group:** Unicraft® Werkstatttechnik

**Type of machine:** Radial Fan

**Designation of the Machine:** RV 145 P, RV 241 P, RV 270 P

**Item number:** 6262014, 6262024, 6262027

**Serial number:** \_\_\_\_\_

**Year of manufacture:** 20\_\_\_\_

complies with all relevant provisions of the above mentioned directive as well as the other applied directives (below) - including their applicable modifications at the time of the declaration.

**Relevant EU directives:** 2014/30/EU EMV- Directive

### The following harmonised standards have been applied:

DIN EN 60335-2-80 Household and similar electrical appliances - Safety - Part 2-80: Particular requirements for fans

DIN EN 60335-1 Household and similar electrical appliances - Safety - Part 1: General requirements

DIN EN 62233:2008 Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure

**Responsible for documentation:** Kilian Stürmer, Stürmer Maschinen GmbH,  
Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt

Hallstadt, 14.03.2018



Kilian Stürmer  
Manager



## 15 Notes

