

# **SUHNER®**

## ***Original operating instructions Milling and grinding motor***

### ***Type UAK 30-RF***

### ***Part No. 64 907***



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# **1. Safety instructions**

## **1.1 General safety instructions**



These operating instructions apply to device UAK 30-RF. Only personnel qualified according to EN 60204-1 may handle the devices.



Observing the enclosed, separate safety instructions is imperative.

## **1.2 Intended use**



This installable milling and grinding motor is intended for the milling of wood and plastics as well as the grinding of wood, plastics, steel and aluminium.

## **1.3 Improper use**



Any use other than that described in Item 1.2 is considered improper and is thus not permissible.

## **1.4. EC conformity declaration (original)**



Otto Suhner GmbH, Trottäcker 50, D- 79713 Bad Säckingen hereby declares in sole responsibility that the product with the serial or batch number (see reverse) complies with the requirements of the directives 2014/30/EU, 2006/42/EG, 2011/65/EU. Applicable standards: EN ISO 12100, EN 60745, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3. Person responsible for documentation: J. Malzacher

Bad Säckingen, Mai 2010

J. Malzacher  
Leiter Antriebstechnik/Motoren

## 1.5. Explanation of symbols



Attention!

Read carefully!

This piece of information is very important to ensure the functionality of the product. Failure to comply may result in a defect.



Safety instruction / warning

This piece of information serves safe operation. If not observed, the operator's safety is not ensured.



Information

This piece of information serves understanding the product's functions. It helps to utilize the full capacity of the product.



Operating instructions

Read these prior to commissioning the product.



Safety glasses and hearing protection

Wear safety glasses and hearing protection.



Disposal

Environmentally compatible disposal.



Power plug

Pull the power plug prior to performing any works on the device.

## **2. Commissioning**

### **2.1 Prior to commissioning**



Check mains voltage. The voltage of the power supply has to match the specifications on the rating plate.

- Check the tool before using it.
- The tool has to be mounted centrally and positioned at the stop.
- The maximum permissible speed of the chuck must not be exceeded in any case.
- Observe country-specific provisions.
- Take protective measures if working may generate harmful, combustible or explosive dusts. Wear dust protection mask and, if attachable, use dust chip extraction.

### **2.2 Commissioning**



Set speed at the dial according to the rpm table.



| Dial level | min-1/rpm |
|------------|-----------|
| 6          | 30 000    |
| 5          | 24 000    |
| 4          | 18 000    |
| 3          | 13 000    |
| 2          | 8 000     |
| 1          | 3 500     |



Never increase the appropriate rotation speed for the insert tool during operation.

### **Switching on and off**



Use toggle switch  
Position 0 = Off  
Position 1 = On

## 2.3 Performance data



|                                     |  |
|-------------------------------------|--|
| Mains voltage (see spare part list) | 230V 50/60 Hz                                |
| Power consumption                   | 1530 W                                       |
| Rated power                         | 1000 W                                       |
| Idle speed                          | 3 500 – 30 000 min <sup>-1</sup>             |
| Max. tool Ø                         | 40 mm  |
| Collet chuck - Ø max.               | 8 mm   |
| Sound pressure level EN 60745       | 86 dB, K= 3dB                                |
| Sound power level                   | 97 dB, K= 3dB                                |
| Vibration EN 60745                  | 5.3 m/s <sup>2</sup> , K=1.5m/s <sup>2</sup> |
| Weight without cable                | 2.85 kg                                      |
| Ingress protection                  | / II   |



The vibration value stated has been measured according to a standardised test procedure and may vary during actual use. It may be used for product comparison or an initial assessment of the exposure.

## 2.4 Conditions



|                             |                         |
|-----------------------------|-------------------------|
| Operating temperature range | 0 to + 50 °C            |
| Relative humidity           | 10 - 95 % not condensed |

## 3. Handling / operation

### 3.1 Protective equipment

#### 3.1.1 Machine protection



- Initial current limitation

The electronically controlled soft start ensures jerk-free machine start. Due to the low initial current, a 16 A fuse is sufficient.

- Temperature-dependent overload protection

To protect against overheating, the safety electronics switch to cool-down mode once a critical temperature is reached. The machine continues operation only at a strongly reduced speed and the electronic speed control is deactivated.

After a cooling period of approx. 10-20 s, the machine is ready to operate again. Switch off and on again to activate the electronic speed control.

With the device warmed up from operation, the temperature-dependent overload reacts sooner, accordingly.

### 3.2 Insert tools



Only use insert tools whose permissible speed is equal to or higher than the idle speed of the device.



Attach clean tools only!



Pull the plug from the socket before adjusting the settings of the device, changing accessories or putting the device away. This precaution prevents starting the device unintentionally.

Wear protective gloves during **tool change**. The insert tool can heat up extremely during longer operation, and/or the cutting edges of the insert tool are sharp.

#### 3.2.1 Change/assembly of the insert tool



- 1) Hold the work spindle at the spanner flats using a gauge 18 single open-end spanner.
- 2) Loosen the clamping nut using a gauge 22 single open-end spanner.



- 1) Insert tool shaft into the chuck until hitting the stop.



- 1) Tighten clamping nut.



Abrasives must run smoothly and true. Do not use out-of-centre abrasives any longer.

Trial run!

Check abrasive tools prior to use. The abrasive tool must be mounted perfectly and rotate freely. Perform a trial run for min. 30 seconds without applying any load. Do not use damaged or out-of-centre abrasive tools!

### 3.3 Working instructions



#### Working with the milling motor



Wear glasses and hearing protection.

When using a drill upright or a boring or milling bench – possibly in combination with a milling table – the instructions in the operating manuals enclosed with such devices are to be observed.

In addition, please make sure that the T-squares are brought as closely as possible to the cutter, the hand rejector (screen) is set as closely as possible to the work piece surface and that such equipment is used during milling which ensures safe guidance of the work piece, e.g. T-square, auxiliary stop, feed pusher or kick-back block during insert milling.

The feed direction must go against the rotation of the cutter (counter rotation):



**Caution!** Always mill with counter rotation!



**WARNING** Use only sharp and well-preserved milling tools! The best is to use our original milling tools.

According to ANSI Z535.6

When using other milling tools, the manufacturer's rpm ratings permanently marked on the rotating tools must not be exceeded!

#### Milling process



Keep hands away from the milling area and cutter. Hold the additional handle with your other hand.

*If you hold the milling machine with both hands, they cannot be injured by the cutter.*



Only approach the work piece with the power tool switched on. *Otherwise, you risk kick-backs if the insert tool gets caught in the work piece.*



## 4. Maintenance

### 4.1 Preventive maintenance

#### 4.1.1 Exchanging the brush



Pull the plug prior to any maintenance work.  
The device has two brushes.



Exchange the brushes as follows:

**Fig. 1**



Unscrew the three screws (Item 20) using a screwdriver and remove half of the switch cap.

**Fig. 2**



Lift the brush spring using a screwdriver and remove the carbon brush. Insert a new carbon brush. It is essential that you ensure the correct position of the carbon brush.

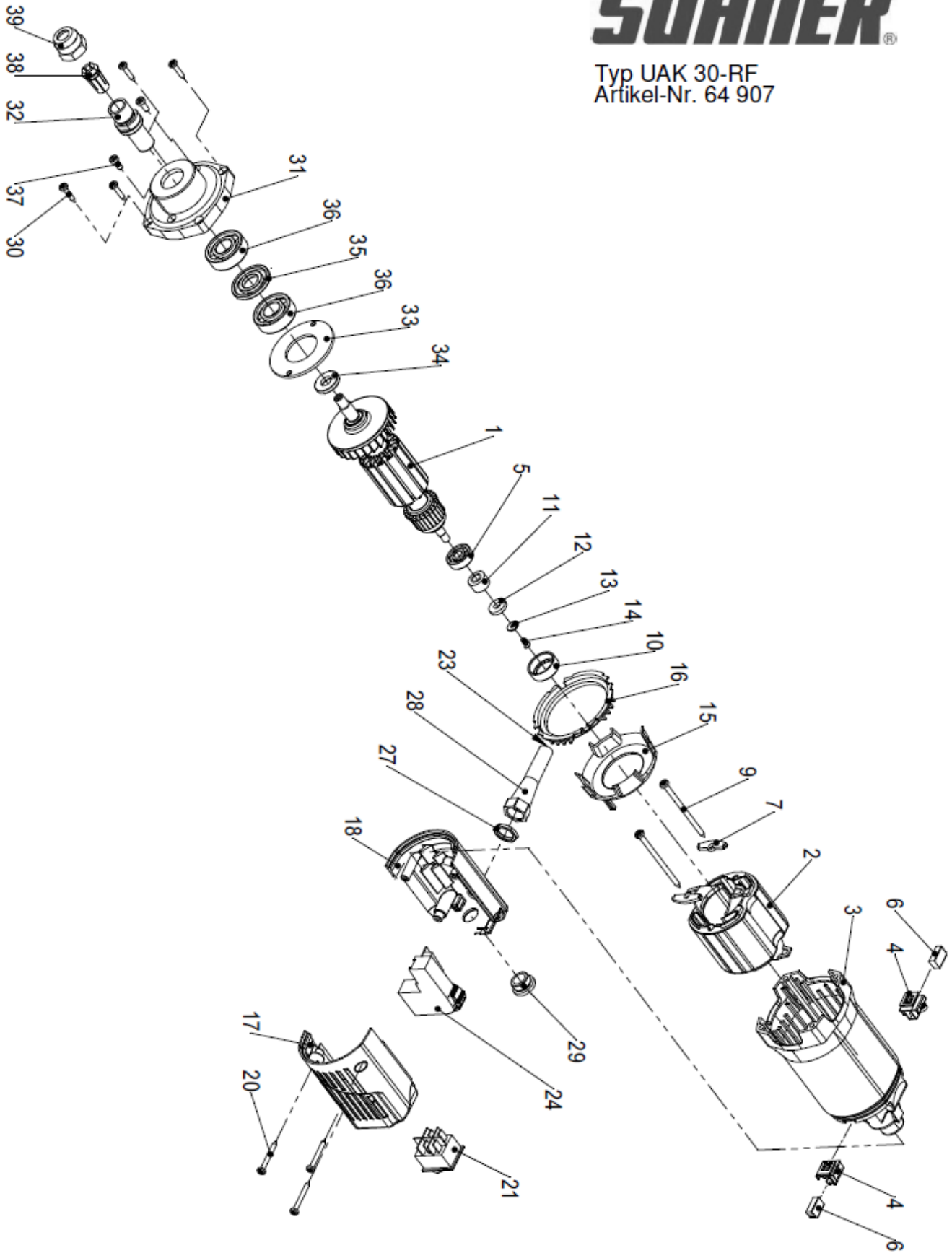
**Fig. 3**



Replace the removed half of the switch cap and fasten it with the 3 screws. Repeat this change on the opposite side. Avoid that both halves of the housing are open at the same time.

# SUHNER®

Typ UAK 30-RF  
Artikel-Nr. 64 907



## Spare parts for UAK 30-RF – 64 907



Spare parts supplied by SUHNER.

When ordering spare parts, please state machine type, serial No. and part No.

| Quantity | Description                     | Item | Part No.  |
|----------|---------------------------------|------|-----------|
| 1        | Rotor with fan                  | 1    | 30000906  |
| 1        | Stator                          | 2    | 30000900  |
| 1        | Stator housing                  | 3    | 64 746 03 |
| 2        | Brush holder                    | 4    | 30000702  |
| 1        | Ball bearing                    | 5    | 27 684 13 |
| 2        | Carbon brush                    | 6    | 30000701  |
| 2        | Stator-screw-fixation           | 7    | 30001138  |
| 2        | Spec. oval-head screw           | 9    | 28 019 01 |
| 1        | Insulating ring                 | 10   | 57 937 01 |
| 1        | Support ring                    | 11   | 30000894  |
| 1        | Ring magnet                     | 12   | 57 287 01 |
| 1        | Disc                            | 13   | 57 289 01 |
| 1        | Countersunk screw               | 14   | 28 134 01 |
| 1        | Fan cover                       | 15   | 30000791  |
| 1        | Eye protection                  | 16   | 30000790  |
| 1        | Switch cap left                 | 17   | 64 823 01 |
| 1        | Switch cap right                | 18   | 64 822 01 |
| 2        | PT-screw                        | 19   | 27 997 12 |
| 3        | LS sheet metal screw            | 20   | 27 995 52 |
| 1        | Motor screw                     | 21   | 64 645 02 |
| 1        | Power cable                     | 23   | 64 416 02 |
| 1        | Electronics 230V                | 24   | 64 821 05 |
| 1        | Rotation plate                  | 25   | 78 532 11 |
| 1        | Rating plate                    | 26   | 64 749 26 |
| 1        | Antikink device                 | 29   | 28 029 01 |
| 4        | Sheet metal screw               | 30   | 27 995 16 |
| 1        | Motor flange                    | 31   | 78 930 01 |
| 1        | Spindle                         | 32   | 64 170 01 |
| 1        | Thrust plate                    | 33   | 78 935 01 |
| 1        | Stop ring                       | 34   | 78 936 01 |
| 1        | Spacer pair                     | 35   | 78 937 01 |
| 2        | Groove ball bearing             | 36   | 78 518 10 |
| 2        | Oval-head screw                 | 37   | 78 932 05 |
| 1        | Collet chuck Ø 8 mm             | 38   | 78 933 02 |
| 1        | Clamping nut                    | 39   | 78 934 01 |
| 3        | Receptacle                      | 40   | 78 744 21 |
| 1        | Receptacle                      | 41   | 78 744 22 |
| 1        | Gauge 18 single open-end wrench | 50   | 37 857 04 |
| 1        | Gauge 22 single open-end wrench | 51   | 37 857 05 |

**Please note:** Repair work, changes and testing of hand-held tools is to be performed properly. The safety provisions according to DIN, ISO and other provisions applicable in the respective country are to be observed.

### 4.3 Repair



Should the device break down despite careful manufacturing and testing procedures, any repair work is to be carried out by an authorised **SUNNER** customer service provider. If the power cord needs to be replaced, this is to be performed by the manufacturer or its representative in order to avoid any safety risks.

### 4.4 Warranty



There shall not be any claim to warranty for any damages / consequential damages due to improper handling, improper use, failure to adhere to the repair and maintenance provisions as well as handling by non-authorized persons.

Complaints shall only be accepted if the device is returned without having been disassembled.

### 4.5 Storage

|                        |                                |
|------------------------|--------------------------------|
| Temperature range      | -15 °C to + 50 °C              |
| Max. relative humidity | 90 % - +30 °C<br>65 % - +50 °C |

### 4.6 Disposal / environmental compatibility



The machine consists of recyclable materials.



Dismantle device prior to disposal. Do not throw device into the waste.

According to national provisions, this device has to be recycled in an environmentally friendly manner.