Working Instructions
Translation

Radial band saw RSR 630
<table>
<thead>
<tr>
<th><strong>Product identification</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type:</strong></td>
</tr>
<tr>
<td><strong>Serial number, year of construction:</strong></td>
</tr>
</tbody>
</table>

**Customer entries**

| **Inventory no.:** |  |
| **Location:** |  |

**Order of spare parts and after sales service:**

**Manufacturer’s address**

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Wilhelm Dommer Söhne GmbH
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Introduction

Purpose of the document

These working instructions give you information about all important questions which refer to the construction and the safe working of your machine.

Just as we are, you are obliged to engage in these working instructions, as well.

Not only to run your machine economically but also to avoid damages and injuries.

Should questions arise, contact our service team in the factory or in our subsidiary companies.

We will help you with pleasure.

According to our interest to continuously improve our products and working instructions, we kindly ask you to inform us about problems and defects which occur in exercise.

Thank you.

Structure of the working instructions

This manual is arranged in chapters, which belong to the different using phases of the machine.

Due to this structure, the searched information can be easily found.
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1. Product description

This chapter gives important basic information about the product and its prescribed use.

All technical details of the machine are put together as a general arrangement.

1.1. Usage and purpose-oriented use

The WIDOS radial band saw RSR 630 is a special machine destined for the cutting of plastic pipes up to Ø 630 mm and a cutting radius up to 600 mm as described in the following manner.

The purpose-oriented use also includes the connection of a sufficiently dimensioned and operational vacuum device to the machine.

All use going beyond is not purpose-oriented.

The described cutting device for plastic material may only be operated, maintained and repaired by persons being familiar with the device and informed on the dangers.

The machine is a workshop device and not suitable for being operated in areas exposed to explosion hazards.

The cutting of wood and wooden sheet material (e.g. MDF sheets) is not allowed.

The manufacturer is not responsible for damages caused by misuse.

The risk is held only by the user.

Also part of the purpose oriented use is

- respecting all the indications of the working instructions and
- performing the inspection and maintenance work.

1.1. Safety measures

In case of wrong use, wrong operation or wrong maintenance, the machine itself or products standing nearby can be damaged or destroyed.

Persons being in the endangered area may be injured.

Therefore these working instructions have to be thoroughly read and the corresponding safety regulations must be necessarily adhered to.

1.1. Conformity

The machine corresponds in its construction to the valid recommendations of the European Community as well as to the according European standard specifications.

The development, manufacturing and mounting of the machine were made very carefully.
1.2. Designation of the product

The product is designated by type labels. They contain the type, the serial number and the year of construction of the machine.

1.2.1. Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saw blade thickness</td>
<td>0.65 mm</td>
</tr>
<tr>
<td>Saw blade width</td>
<td>13 mm</td>
</tr>
<tr>
<td>Saw blade length</td>
<td>6295 mm</td>
</tr>
<tr>
<td>Total height</td>
<td>appr. 2710 mm</td>
</tr>
<tr>
<td>Total depth</td>
<td>appr. 2435 mm</td>
</tr>
<tr>
<td>Total width</td>
<td>appr. 2080 mm</td>
</tr>
<tr>
<td>Length of pipe support</td>
<td>700 mm</td>
</tr>
<tr>
<td>max. pipe diameter</td>
<td>630 mm</td>
</tr>
<tr>
<td>max. cutting radius</td>
<td>600 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>appr. 610 kg</td>
</tr>
</tbody>
</table>

1.2.2. Electrical data

<table>
<thead>
<tr>
<th>Specification</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>230V AC</td>
</tr>
<tr>
<td>Connection</td>
<td>CEE 16 A</td>
</tr>
<tr>
<td>Power</td>
<td>1.4 kW</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 Hz</td>
</tr>
<tr>
<td>Current</td>
<td>3.7 A</td>
</tr>
</tbody>
</table>

1.3. Equipment and accessories

<table>
<thead>
<tr>
<th>Piece</th>
<th>Denomination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Door key (saw arm); hand over key only to authorized persons</td>
</tr>
<tr>
<td>2</td>
<td>Spanner wrench SW 19</td>
</tr>
<tr>
<td>1</td>
<td>Spanner wrench SW 27 long</td>
</tr>
<tr>
<td>1 each</td>
<td>Spanner wrench SW 10, SW 13 and SW 17</td>
</tr>
<tr>
<td>1 each</td>
<td>Allen key SW 5 and SW 6</td>
</tr>
<tr>
<td>2</td>
<td>Saw blade 6295x13x0.65 mm / 4 ZpZ, K</td>
</tr>
<tr>
<td>1</td>
<td>Tubular socket wrench SW 55</td>
</tr>
<tr>
<td>1</td>
<td>Clamping belt 4m, 2000 daN</td>
</tr>
</tbody>
</table>

1.4. List of wear parts

<table>
<thead>
<tr>
<th>Piece/mach.</th>
<th>Denomination</th>
<th>Article no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bimetal saw blade 6295x13x0.90 mm / 4 H – S</td>
<td>on request</td>
</tr>
<tr>
<td>1</td>
<td>Gear wheel D400 (replacement)</td>
<td>5442105</td>
</tr>
<tr>
<td>2</td>
<td>Deflection pulley D400 (replacement)</td>
<td>5442104</td>
</tr>
<tr>
<td>2</td>
<td>Saw blade guide pulley 6002 2 Z (rear)</td>
<td>on request</td>
</tr>
<tr>
<td>4</td>
<td>Saw blade guide pulley 6201 2 Z (lateral)</td>
<td>on request</td>
</tr>
</tbody>
</table>
2. Safety rules

The base for the safe handling and the fault-free operation of this machine is the knowledge of the basic safety indications and rules.

- These working instructions contain the most important indications to run the machine safely.
- The safety indications are to be followed by all persons working on the machine.

2.1. Explanation of symbols and indications

In the working instructions, the following denominations and signs are used for dangers:

- This symbol means a possibly danger for the life and the health of persons by electrical energy.
  - The disrespect of these indications may have heavy consequences for the health.

- This symbol means a possible dangerous situation.
  - The disrespect of these indications may cause slight injuries or damages on goods.

- This symbol means a possible dangerous situation by moving parts of the machine.
  - The disrespect of these indications may cause heavy crushing of hands or parts of the body resp. damages of parts of the machine.

- This symbol means a possible risk of injury by noise exceeding 80 dB(A).
  - Ear protection is obligatory.

- This symbol means a possible risk of injury by drilling chips.
  - Eye protection is obligatory.

- This symbol gives important indications for the proper use of the machine.
  - The disrespect of these indications may conduct to malfunctions and damages on the machine or on goods in the surrounding.

Under this symbol you will get tips and particularly important information.

This shall help you to use all functions of the machine in an optimal way and makes the work easier for you.

The regulations for the prevention of accidents are valid (UVV).
2.2. **Obligations of the owner**

The owner is obliged only to let persons work at the machine, who

- know about basic safety and accident prevention rules and are instructed in the handling of the machine, as well as who
- have read and understood the safety chapter of this manual and certify this by their signature.

*The safety-conscious working of the staff has to be checked in regular intervals.*

2.3. **Obligations of the worker**

All persons who are to work at the machine are obliged before working:

- To follow the basic safety and accident protection rules.
- To have read and understood the safety chapter and the warnings in this manual and to confirm by their signature that they have well understood them.
- To inform themselves about the functions of the machine before using it.

2.4. **Measures of organization**

- All equipment required for personal safety is to be provided by the owner.
- All available safety equipment is to be inspected regularly.

2.5. **Information about safety precautions**

- The working instructions have to be permanently kept at the place of use of the machine. They are to be at the operator’s disposal at any time and without effort.
- In addition to the manual, the common valid and the local accident protection rules and regulations for the environmental protection must be available and followed.
- All safety and danger indications on the machine have to be in a clear readable condition.
- Every time the machine changes hands or is being rent to third persons, the working instructions are to be sent along with and their importance is to be emphasized.

2.6. **Instructions for the staff**

- Only skilled and trained persons are allowed to work at the machine.
- It must be clearly defined who is responsible for transport, mounting and dismounting, starting the operation, setting and tooling, operation, maintenance and inspection, repair and dismounting.
- A person who is being trained may only work at the machine under supervision of an experienced person.
2.7. Dangers while handling the machine

The band saw WIDOS RSR 630 is constructed according to the latest technical standard and the acknowledged technical safety rules.

However, dangers for the operator or other persons standing nearby may occur. Also material damages are possible.

The machine may only be used:

- according to the purpose-oriented usage
- in safety technical impeccable status

*Disturbances which may affect the safety of the machine must be cleared immediately.*

2.8. General safety indications

- A working area without obstacles around the machine and a non-slip and plane floor are of basic importance for a safe operation.
- The working area must be well lightened and free of waste (cuttings, residues).
- Before starting the operation, make sure that the saw blade is tightened properly and that the band guidance is adjusted correctly, as well as that the door situated over the saw blade guidance is closed.
- During the operation, wear tight clothes only.
- Keep the handles dry and free from oil and grease.
- Wear safety glasses during the cutting operation.
- Do not wear rings, bracelets etc.
- Protect long hair by means of a sufficient headgear.
- During work, the pipe must be clamped firmly.
- Do never remove reminders as long as the saw is working.
- In case of irregular running behaviour of the saw blade, switch off the saw immediately and check the saw blade for correct course, correct tension and possible fractures.
- Replace dull or badly set saw blades by orderly installed saw blades.
- Before elimination of any disturbances, and before any repair or maintenance work, switch off the saw and disconnect the mains plug in any case.

Only skilled persons are allowed to work at electrical appliances.

- The electrical equipment of the machine has to be checked regularly. Loose connections and damaged cables have to be replaced or repaired immediately.
- Protect the machine from wetness and humidity.
2.9. **Specific dangers**

2.9.1. **Danger of cutting or catching clothes**

- You can cut yourself during sawing or when exchanging the saw blade!
  - Before starting the cutting operation, take care that no person is standing in the operating, swiveling or cutting area.
  - Always wear safety gloves when exchanging the saw blade.

2.9.2. **Danger of stumbling over electric wire**

- Make sure that no person has to step over the wire. Lay the wire in such a way that the danger is kept at a minimum. Do not squeeze, buckle the wires or such.

2.9.3. **Danger of being injured by chips / oddments**

- Wear safety glasses during cutting.
- Adjust saw blade covering onto the pipe diameter.
- *Never* remove oddments as long as the saw is running.

2.9.4. **Risk of injury of noise**

- Noises exceeding 80 dB (A) may occur; during planing it is obligatory to wear ear protection!

2.10. **Maintenance and inspection, repair**

- All maintenance and repair work has to be basically performed with the machine in off position.
- During this, the machine has to be secured against unauthorized switching on.

2.11. **Remaining risks**

Even at purpose-oriented use and even if following all the relevant safety instructions, the following risks remain due to the construction conditional on the purpose of operation of the machine:

- Injuries caused by parts of the work pieces which are squirting away.
2.12. Warranty and liability

Fundamentally our “General Sales and Delivery Conditions” are valid. They are at the owner’s disposal latest when signing the contract.

Warranty and liability claims referring to personal injuries or damages on objects are excluded if they are caused by one or several of the following reasons:

- not using the machine according to the prescriptions
- inexpert transport, mounting, starting, operating, and maintenance of the machine
- ignoring the information given in this manual
- structural modifications on the machine without permission
- unsatisfactory checking of parts of the machine that are subject to wear and tear
- repairs performed in an inexpert way
- In case of catastrophes and force majeure.
3. Functional description

Basically, the international and national process guidelines are to be followed.

Set the saw to the desired radius and secure it by clamping.

Lay the pipe on the pipe support and clamp it (check the distance to the saw blade!).

Having completed all settings switch the saw motor on cut the radius by moving the swiveling plate.

When the cutting operation is finished, switch off the saw blade motor.

Unclamp the pipe.
4. Operating and indicating elements

4.1. Machine overview

<table>
<thead>
<tr>
<th>No.</th>
<th>Denomination / Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Saw arm</td>
</tr>
<tr>
<td>2</td>
<td>Saw blade guiding</td>
</tr>
<tr>
<td>3</td>
<td>Handle with button, the button starts the drive motor</td>
</tr>
<tr>
<td>4</td>
<td>Lever to move the swiveling plate</td>
</tr>
<tr>
<td>5</td>
<td>Clamping lever to set the radius, on both sides of the swiveling plate</td>
</tr>
<tr>
<td>6</td>
<td>Prism to support the pipe, adjustable to radius</td>
</tr>
<tr>
<td>7</td>
<td>Swiveling plate to cut radiuses</td>
</tr>
<tr>
<td>8</td>
<td>Deflection pulley with set screws</td>
</tr>
<tr>
<td>9</td>
<td>Cover for saw blade</td>
</tr>
<tr>
<td>10</td>
<td>Saw blade</td>
</tr>
<tr>
<td>11</td>
<td>Deflection pulley with set screws and eccentric for saw blade tension</td>
</tr>
<tr>
<td>12</td>
<td>Switch cabinet with fuse</td>
</tr>
<tr>
<td>13</td>
<td>Drive motor and drive wheel</td>
</tr>
<tr>
<td>14</td>
<td>Leveling foot (4 pieces) to adjust the saw</td>
</tr>
</tbody>
</table>
4.1.1. Fuse

The motor protective is located within the switch cabinet F40, 2.8 – 4A. It is the overloading protection for the drive motor. In case the motor protective has been triggered, clear the cause of the overloading and reactivate the fuse afterwards.

4.2. Saw blade guiding and saw blade cover

The saw blade guiding is mounted to the saw blade cover. Adjust the saw blade guiding for cutting at the top in a way that only minimal space remains between the lower edge of the saw blade guiding and the upper edge of the pipe.

- Hold tight to the saw blade guiding, release the fixing handles and shift the saw blade guiding to the necessary height.
- Fix the saw blade cover by the fixing handles.
The saw blade runs through the identical saw blade guidings on top and bottom. It is lead through the two rollers and supported to the rear by the larger roller on one side. The roller with eccentric can be adjusted. It is adjusted correctly if both rollers can still be turned somewhat towards each other and if the saw blade runs even.

For setting the guiding, release the left-hand counter nut by means of fork wrench size 24. Now the eccentric is turned with hexagon socket wrench size 6 until the rollers have the desired distance. Secure the eccentric by means of the counter nut.

**4.3. Adjust the cutting radius**

- In order to adjust the cutting radius, release both clamping levers.
- Shift the swiveling plate until the desired radius is shown on the measuring tape.
- Fix setting with both clamping levers.
4.4. Vacuum device

It is indispensable to exhaust the cutting chips. The guidings for the swiveling plate as well as the saw blade guiding may become sluggish resp. get damaged by the cutting chips.

Special feature: the vacuum device has two extraction hoses in order to exhaust the chips at the saw blade and the second one to exhaust the machine surroundings.

Solid hose at the saw blade:  Detachable hose at the base frame:

Guard plate  Extraction hose

E.g. shift the extraction hose from one of the vacuums below the guard plate just in front of the saw blade.

Necessarily secure the vacuum against shifting e.g. by vibration during cutting.

Always activate the vacuum device while cutting.
5. Starting and operating

The instructions of this chapter are supposed to initiate in the operation of the machine and lead through the appropriate starting of the machine.

This includes:
- the safe operation of the machine
- economic operation of the machine.

5.1. Starting

The saw **RSR 630** must be adjusted by means of the leveling screws in the machine feet in such a way that the swiveling plate is horizontal and the saw arm is vertical.

Connect the mains plug to the local power supply 230 V / 16 A / 50 Hz.

It is necessary to attach a vacuum device (chapter: 4.4).

In situations of danger for man and machine **immediately** release the button resp. pull the power plug!

Cut only tightly clamped pipes!

- Take care that no unauthorized person has access to the band saw.
- Protect the band saw from wetness and humidity!

Clean the saw arm **regularly** with the saw switched-off! (see chapter 6.3)

Do not saw without safety glasses and ear protection!

Replace the screw plug by the enclosed venting screw before starting the band saw.

**Do not throw away** the screw plug, you need it again when transporting the band saw.
5.2. Clamp the pipes

If the swiveling retainer is not at the left limit stop, thus swivel it there.
Lay the pipe onto the prism and clamp it by the clamping belt in near to saw-cut.
Lay the clamping belt around the pipe and the prism.
Lead the belt from the inside to the outside through the aperture of the ratchet and tighten it.
Clamp the pipe firmly onto the prism by moving several times the grip of the ratchet into direction of the arrow.
The ratchet snaps in at both ends.
Attention! Do not deform pipes with thin walls!

Release the belt by pulling the safety gripper into direction of the ratchet grip.

In order to make pipe clamping easier, the machine features a limit stop. The pipe must be shifted towards this limit stop and then be fixed by the belt.
5.2.1. **Adjust angle for branch pipe 45° and 60°**  
If you want to cut branch pipes with 45° or 60° angles, you must swing the prism accordingly upwards.  

Detach both rear hexagon screws “1” and detach the front hexagon screws “2”. Mount the fixtures for angle 45° branch or for angle 60° branch between support and prism and fix the hexagon screws “2”.  

Depending on pipe size and angle it is necessary to shift the prism in order to minimize the unprotected pipe overhang.  
- Release the hexagon screws „3” and shift the support including prism on the necessary distance.
5.3. Cutting radiuses

Carefully swivel the assembled prism without clamped-in pipe to the saw blade and check that the saw blade does not touch the prism during cutting!

- Firmly clamp the pipe (chapter: 5.2), and activate the optional vacuum device.
- Press the button at the handle (no. 3) with the left hand in order to start the saw motor.
- Grab the lever (no. 4) with the right hand and move the swiveling device with adequate speed in order to cut the radius.

As soon as the pipe has been cut, the remaining piece of the pipe drops down in the rear area!

5.4. Cutting angled radiuses

After the prism has been assembled, please carry out a swivel check without clamped-in pipe in order to check that the saw blade does not touch the prism!

- Firmly clamp the pipe (chapter: 5.2.1), and activate the vacuum device.
- Press the button at the handle (no. 3) with the left hand in order to start the saw motor.
- Grab the lever (no. 4) with the right hand and move the swiveling device with adequate speed in order to cut the radius.

As soon as the pipe has been cut, the remaining piece of the pipe drops down in the rear area!
6. Maintenance / storage / transport

Goal of the chapter is:
- Keeping the nominal state and the operation capacity of the machine.
- Efficient planning of the maintenance work and the maintenance tools.
- Increasing the efficiency by avoiding non-planned outage.

6.1. In general

All maintenance and repair work has to be performed basically with the machine in off position.

During this, the machine has to be secured against unauthorized switching on.

Prescribed maintenance and inspection work should be performed in time.

We recommend inspection work after 1 year.

For machines with an especially high usage percentage the testing cycle should be shortened.

The work should be performed at WIDOS or by an authorized partner.

The linear guides must be cleaned every week e.g. with a brush.

Check the linear guide carriages every 3 months and grease them over the lubricating nipple if necessary. Chips or other impurities in the guides can be the cause if the swiveling plate jams or runs heavily.

- The operating staff has to be informed before the starting of the maintenance work.
- Check the tightness of all screwed connections every three months.
- Replace damaged parts immediately. Be particularly careful with electric parts → dust and humidity are very much current leading.
- Only use original WIDOS spare parts for repair work.
- Store dry.
- Protect the machine from heavy shocks.
- Handle the machine carefully.
- We basically recommend removing regularly any remaining cutting chips (switch off the machine!). For that purpose, unscrew the cover (see chapter 6.3).

6.2. Storage

If any storage becomes necessary, make sure that the storage room is dry and that the temperature is between +5° C and +35° C.
6.3. **Remove cutting chips from the saw arm**

Regularly remove any cutting chips from the saw arm.
- Pull the power plug.
- Open the doors of the saw arm.
- Remove the cutting chips e.g. by extraction.
- Shut the doors afterwards.

6.4. **Set and tension the saw blade**

Risk of injury!
Sharp tip teeth ⇒ wear gloves!

The saw blade should be positioned on the center of the pulleys. In case that the saw blade runs unevenly, check if the saw blade is in the central position or if the deflection pulleys are damaged / soiled.
The central position can be adjusted on both deflection pulleys. For adjusting, release the fixing screws. Then screw somewhat the set screws in or out (which rest on the fore part of the deflection pulleys). Finally turn the saw blade manually (wear gloves!) into running direction in order to check if it runs evenly. If so, tighten all fixing screws and shut the saw arm.

The saw is only to be tensioned at the deflection pulley with eccentric. Release the counter nut with socket wrench SW 56; then turn the eccentric with combination spanner SW 27 until the saw blade has the correct tension. Fix the eccentric setting by tightening the counter nut.

To release tension, e.g. in order to replace the saw blade, proceed in the same way.

6.5. Replace saw blade

Risk of injury!
Sharp tip teeth ⇒ wear gloves!

In order to replace the saw blade pull the power plug. Release the tension of the saw blade at the deflection pulley with eccentric (chapter: 6.4). Detach the pan-head screws and remove the guard plate.
Open the saw arm and remove the saw blade to the front. Insert the new saw blade in the center of the deflection pulleys and the drive wheel, teeth showing to the front. Lead the saw blade through the rollers on top and bottom.

Turn the saw blade manually (wear safety gloves!) in order to check even running.

If so, tension the saw blade by means of eccentric and counter nut (chapter: 6.4).

Mount the guard plate.

Shut the doors of the saw arm and connect the power plug to the local power supply.

6.6. Disposal

At the end of their lifetime, the machine and the wear parts have to be disposed of properly and environment-friendly, in accordance with the national laws regulating waste disposal.
7. Electric diagrams
8. Declaration of conformity

In the sense of the EC guideline EG-MRL 2006/42/EG

Company

WIDOS GmbH
Einsteinstr. 5
D-71254 Ditzingen

declare under own responsibility that the product

Band saw
WIDOS RSR 630

to which this declaration refers corresponds to the following norms and normative documents:

1. DIN EN ISO 12100 – 1 and 2 (replacing DIN EN 292 part 1 and 2)
   Safety of machines, basic terminology, general guidelines for design

2. DIN EN 60204.1
   Electric equipment of industrial machines

3. EN 60555, EN 50082, EN 55014
   Electro-magnetic resistance

The technical documentation is completely available.

Ditzingen, 4/10/2017

Martin Dommer (Technical director)