Working Instructions
Translation
Band Saw RS 315

Keep for further use!
Product identification

Type:  Band saw RS 315
Serial number / year of construction:  see nameplate

Customer Entries

Inventory No.:  
Location:  

Order of Spare Parts and After Sales Service

Address of Manufacturer:  WIDOS
Wilhelm Dommer Söhne GmbH
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E-mail:  info@widos.de
Website:  www.widos.de
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. Description of the product

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 band saw RS 315 is a special machine for cutting plastic pipes Ø 50 up to Ø 315 mm, an angle of max. 45° on both sides and of 67.5° on one side respectively in the way as described below.

By means of the optional circular cutting device, it is possible to cut pipes from OD 50 mm up to OD 200 mm; with radii from 50 mm up to 240 mm.

All use going beyond is not purpose-oriented.

The described plastic saw may only be operated, maintained and repaired by persons who are trained and informed about the dangers.

It is a workshop machine and not suitable for operation in hazardous locations.

It is forbidden to cut wood and sheets made out of wood (e.g. pressboard).

The manufacturer is not responsible for any damages caused by inexpert handling or operation.

For personal injuries, material and immaterial damages resulting herefrom, only the user is responsible!

Also part of the purpose-oriented use is
- respecting all the indications of the working instructions and
- performing the inspection and maintenance work.

1.2. 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.

1.3. 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.

1.4. Designation of the product

The product is designated by a nameplate at the basic mounting. It contains the type, the serial number and the year of construction of the machine.
1.4.1. Technical data

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness of saw blade:</td>
<td>0.65 mm</td>
</tr>
<tr>
<td>Width of saw blade:</td>
<td>13 mm</td>
</tr>
<tr>
<td>Length of saw blade:</td>
<td>3900 mm</td>
</tr>
<tr>
<td>Total height:</td>
<td>appr. 1800 mm</td>
</tr>
<tr>
<td>Total depth, at maximum positioning way:</td>
<td>appr. 1670 mm</td>
</tr>
<tr>
<td>Total width, at max. swiveling / positioning way:</td>
<td>appr. 2330 mm</td>
</tr>
<tr>
<td>Length of the pipe support:</td>
<td>800 mm</td>
</tr>
<tr>
<td>Max. diameter of pipes:</td>
<td>315 mm</td>
</tr>
<tr>
<td>Weight:</td>
<td>appr. 346 kg</td>
</tr>
<tr>
<td>Transport case (l x w x h):</td>
<td>appr. 1670 x 163 x 2180 mm</td>
</tr>
<tr>
<td>Weight transport case:</td>
<td>appr. 216 kg</td>
</tr>
<tr>
<td>Power supply:</td>
<td>16 A CEE plug with phase converter</td>
</tr>
<tr>
<td>Option for small radii:</td>
<td></td>
</tr>
<tr>
<td>Saw blade thickness:</td>
<td>0.9 mm</td>
</tr>
<tr>
<td>Saw blade width:</td>
<td>10 mm</td>
</tr>
<tr>
<td>Saw blade length:</td>
<td>3900 mm</td>
</tr>
</tbody>
</table>

1.4.2. Electrical data

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power of saw motor:</td>
<td>0.37 kW</td>
</tr>
<tr>
<td>Voltage:</td>
<td>400V AC / 220-230 V AC</td>
</tr>
<tr>
<td>Frequency:</td>
<td>50 Hz / 60 Hz</td>
</tr>
<tr>
<td>Nominal current:</td>
<td>1.05 A / 1.8 A</td>
</tr>
<tr>
<td>Speed of saw motor:</td>
<td>140 rpm</td>
</tr>
</tbody>
</table>

1.4.3. Technical data Z-laser (optional)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range:</td>
<td>appr. 0.5 m</td>
</tr>
<tr>
<td>Power:</td>
<td>3 mW</td>
</tr>
</tbody>
</table>

1.5. Equipment and accessories

<table>
<thead>
<tr>
<th>Pieces</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tool bag</td>
</tr>
<tr>
<td>1 each</td>
<td>Ring fork wrench size 16 / 17</td>
</tr>
<tr>
<td>1</td>
<td>Fork wrench size 24 / 30</td>
</tr>
<tr>
<td>1 each</td>
<td>Allen key angle size 3 / 4 / 6 / 8</td>
</tr>
<tr>
<td>1 each</td>
<td>Allen key with T-grip size 3 / 4 / 6 / 8 (for radiuses only)</td>
</tr>
<tr>
<td>1</td>
<td>Key for cupboard</td>
</tr>
<tr>
<td></td>
<td><strong>Attention!</strong> Hand over the key to authorized personnel only.</td>
</tr>
<tr>
<td>1</td>
<td>Clamping belt with Ratchet 50 mm width, 1.5 m length</td>
</tr>
<tr>
<td>1</td>
<td>Z3A – laser (optional)</td>
</tr>
<tr>
<td>2</td>
<td>Saw blade 3900 x 13 x 0.65 with 4ZpZ</td>
</tr>
<tr>
<td>1</td>
<td>Clamping belt (optional)</td>
</tr>
</tbody>
</table>
## 1.6. Wear parts

<table>
<thead>
<tr>
<th>Pieces/Mach.</th>
<th>Name</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Saw blade 3900x13x0.65 with 4ZpZ</td>
<td>540315</td>
</tr>
<tr>
<td>1</td>
<td>Drive wheel D300 (replacement)</td>
<td>5431213</td>
</tr>
<tr>
<td>3</td>
<td>Deflection pulley D300 (replacement)</td>
<td>5431214</td>
</tr>
<tr>
<td>2</td>
<td>Roller for saw blade guidance 6202 2 Z (rear)</td>
<td>L6202Z</td>
</tr>
<tr>
<td>4</td>
<td>Roller for saw blade guidance 6201 2 Z (sideways)</td>
<td>L6201Z</td>
</tr>
<tr>
<td>1</td>
<td>Battery for line laser Z3A</td>
<td>Mignon</td>
</tr>
</tbody>
</table>

**Option for small radii:**

<table>
<thead>
<tr>
<th>Pieces/Mach.</th>
<th>Name</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Saw blade 3900 x 10 x 0.65 with 6Z/Z KL (optional for small radii)</td>
<td>5403151</td>
</tr>
<tr>
<td>4</td>
<td>Saw blade guide roller (lateral) 6201 2 Z with large bezel (optional for small radii)</td>
<td>54312221</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 with the machine.

2.1. Explanation of the symbols and indications

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

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

- This symbol means a possible dangerous situation.
  - The non-respect of these indications may cause light 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 parts of the body resp. damages of parts of the machine.

- This symbol means a possible danger of injury by sawing chips.
  - It is obligatory to wear safety glasses

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

- Under this symbol you get user tips and particularly useful information.
  - It is a help for using all the functions on your machine in an optimal way and helps you to make the job easier.

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 operator
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 saw. They are to be at the operator's disposal at any time and without much 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 on the saw.
- 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 on the saw under supervision of an experienced person.
2.7. Dangers while handling the machine

The band saw WIDOS RS 315 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 saw may only be operated:

- 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 and ear protection 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.
- **Never** remove oddments 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 in any case the mains plug.

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.
- System parts and pressure hoses should be depressurized before beginning any repair work.
- There is a danger of injuring the eyes by compressed air coming out suddenly.
- Replace damaged pneumatic hoses immediately.
- Make a visual inspection of the pneumatic hoses before each work beginning.
2.9. Specific dangers

2.9.1. Danger of cutting or catching clothes

You can cut yourself during sawing or 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 and pull the power plug when exchanging the saw blade.
- Never remove cuttings or remains as long as the saw blade is running.
- Before you start the cutting check the pipe is clamped

Attention! The saw still runs for appr. 3 sec after having released the push button!

2.9.2. Danger of stumbling over pneumatic and electric wires

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

2.9.3. Danger of crushing upon mounting / dismounting the circular cutting device

There may be an increased danger of crushing and jamming upon mounting or dismounting the circular cutting device.

Please make sure that the device is secured by a belt against an unintentional swiveling.

2.9.4. Danger of injury by cutting chips / remains

- You could injure your eyes by flying around chips
- Do wear safety glasses during cutting!
2.10. Maintenance and inspection, repair

All maintenance and repair work have 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 are remaining due to the construction conditional on the purpose of operation of the machine:

- Injuries caused by cuttings or parts of the workpieces 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.
Guarantee and liability demands 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;
- Running the machine with defective or not orderly mounted safety appliances;
- Ignoring the information given in this manual;
- Structural modifications on the machine without permission;
- Unsatisfactory checking of parts of the machine which are worn out;
- 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 angle and secure it by clamping / fixing.

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

Switch on the optional line laser.

After having finished all settings, switch on vacuum and saw motor by button or foot switch (optional).

At the same time, move the saw blade manually towards the pipe and cut the pipe.

After completion of the cutting process release the push button / foot switch (saw blade motor switches off) and push the saw backwards.

Switch off the vacuum again.

Switch off the line laser.

Unclamp the pipe or push it into a new position and cut the second angle.
4. Operating and indicating elements

(Saw with optional right pipe support)                      (Saw with optional circular cutting device)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name / Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pipe clamping device (chapter 4.5) (optional)</td>
</tr>
<tr>
<td>2</td>
<td>Left pipe support</td>
</tr>
<tr>
<td>3</td>
<td>Hand lever for the pipe clamping (optional)</td>
</tr>
<tr>
<td>4</td>
<td>Pressure regulator for the pipe clamping (optional)</td>
</tr>
<tr>
<td>5</td>
<td>Swiveling device of the saw with 2 clamping levers (chapter: 4.3)</td>
</tr>
<tr>
<td>6</td>
<td>Stop bolt for limitation upon swiveling, right + left</td>
</tr>
<tr>
<td>7</td>
<td>Saw arm</td>
</tr>
<tr>
<td>8</td>
<td>Line laser showing the later cutting course (chapter: 4.4) (optional)</td>
</tr>
<tr>
<td>9</td>
<td>Handle to guide the saw, with pushbutton for the cutting</td>
</tr>
<tr>
<td>10</td>
<td>Saw blade covering (chapter: 4.4)</td>
</tr>
<tr>
<td>11</td>
<td>Deflection pulley with saw blade tensioner</td>
</tr>
<tr>
<td>12</td>
<td>Handle to swivel the saw</td>
</tr>
<tr>
<td>13</td>
<td>Saw blade</td>
</tr>
<tr>
<td>14</td>
<td>Nozzle for vacuum</td>
</tr>
<tr>
<td>15</td>
<td>Driving motor</td>
</tr>
<tr>
<td>16</td>
<td>Right pipe support (optional)</td>
</tr>
<tr>
<td>17</td>
<td>Circular cutting device (optional) (chapter: 4.5.2)</td>
</tr>
<tr>
<td>18</td>
<td>Connecting cable with plug</td>
</tr>
<tr>
<td>19</td>
<td>Foot switch (optional)</td>
</tr>
<tr>
<td>20</td>
<td>Set screw, 4 pieces</td>
</tr>
</tbody>
</table>
4.1. Elements to lock the saw arm

The saw arm features below lug 2 with two drill holes. The locking bolts are stored in the lug. The revolving plate features lug 1 and 3.

In order to make straight cuts, you must not lock the saw arm.

The locking device from lug 2 to lug 3 is meant for the optional circular cutting.

Lock lug 2 to one of the drill holes in the basic plate (chapter 4.3) in case you want to cut an angle.

Lock lug 2 to lug 1 in case you want to transport the saw.

4.2. Saw blade guiding

The saw blade runs through the saw blade guidings above and below. The saw blade is guided in each of the front rollers, and is unilaterally held to the rear by a larger roller.

The side without large roller has an eccentric bolt and can thus adjust the band guiding.

The adjusted position is correct if both rollers in the front can just be turned against each other and the saw blade is smoothly running.

In order to adjust the guiding rollers detach the counter nut of the eccentric bolt by flat wrench SW 24. Now you can turn the eccentric bolt by Allen wrench SW 6 until the rollers do have the desired gap. Secure this position by tightening the counter nut.

You may also use a smaller saw blade (optional) with 10 mm width in order to cut small radii. For this purpose you must replace the guide rollers by the ones with large bezels (see chapter: 6.6.1).
4.3. How to set the swiveling angle

- In order to turn the saw arm, release both clamping levers and pull out the locking pins.
- Now turn the saw arm onto the requested angle.
- Lock the angle by the locking pins (right image).
- Additionally tighten both clamping levers.

4.4. Linear laser (optional) and saw blade covering

At the upper saw blade guiding, there is the (optional) linear laser. It indicates the cutting course on the clamped pipe.

- Adjust the light beam in a way that it is vertically located above the saw blade.

Example: in case the saw is in position 90°, the light beam also indicates 90° on the scale. Turn on/off the laser via the sliding switch.

The laser is operated by a mignon battery.
- In order to replace the battery, detach the upper cover, change the battery and close the cover again.
Please take the exact setting and further details from the separately enclosed working instructions of the laser, type: ZA3.

The saw blade covering is recommended to be adjusted in a way that the lower edge of the cover is a bit above the pipe to be cut.

- In order to displace the covering, detach the star screw and push the saw blade covering to the desired height. Afterwards, tighten the star screw again.

### 4.5. Clamping pipe

#### 4.5.1. Pipe clamping device (optional)

How to set the clamping device:

- Release clamping lever 2 of the telescopic clamping arm and push the telescope in / out (arrow) of the clamping arm; arrest the desired position with clamping lever 2.

- In order to swing the clamping arm, release clamping lever 1, swing the clamping arm into the desired position and lock it with clamping lever 1.

- The pipe clamer is turning horizontally.

- Upon clamping it is turned manually onto the pipe center.

- The height of the clamping arm can be adjusted by means of the control slide. For that purpose release the screw in the control slide, bring the clamping arm to the desired height and tighten the screw again.

- By turning the lever of the manual valve, the pipe clamping fixture is moved up and downwards and the pipe is clamped.

- Regulate the speed of opening and closing the pipe clamping fixture at the respective exit air - one-way flow restrictor.

- Set the desired clamping pressure at the pressure regulator.
4.5.2. How to clamp the pipes with clamping belt (optional)

Lay the pipe onto the pipe support (take care of the saw blade distance!) and clamp it by the clamping belt.

Lay the clamping belt around the pipe and the pipe support. Lead the belt from the inside to the outside through the opening of the ratchet and tighten it (see illustration). Clamp the pipe firmly onto the pipe support 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.

The belt can be unclamped again by pulling the safety gripper into direction of the ratchet grip.
4.6. **Circular cutting device (optional)**

On the circular cutting device, it is possible to cut pipes from OD 50 mm up to OD 200 mm, with radii from 50 mm up to 240 mm that are needed for the branch welding of main pipes at 90° / 60° / 45°.

4.6.1. **Clamping belt for circular cutting**

Put the clamping belt around the pipe and through the slots of the prism. In order to tension, pull the belt at its loose end in a way that it surrounds the pipe slightly; afterwards move the belt lock in arrow direction. Move the ratchet handle repeatedly in arrow direction thus tightening the pipe. The ratchet snaps into place at both ends. By pulling the retaining clip into direction of the ratchet handle, you may release the belt again.
4.7. Attachment for longitudinal cutting (optional)

The attachment enables you to cut pipes with a length of 365 mm – 380 mm in longitudinal direction.

The following reducer inserts are available:
- 2” reducer insert
- 4” reducer insert
- 6” reducer insert
- 8” reducer insert
- 10” reducer insert
- 12” attachment

Unlock the clamping lever in order to clamp/change the attachments; insert the required attachment size and tighten the clamping lever again.

The mounted locking spanner is destined for fixing the pipes. Press the pipe against the attachment and then rest the locking spanner at both pipe ends. Adjust the locking spanner in a way that the pipe is locked tightly.

Aligning the locking spanner is carried out via both hexagon socket screws.
5. Starting and operating

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

This includes:

- the safe operation of the machine;
- using all the possible options of the machine;
- the economic operation of the machine.

5.1. Starting

In order to start the operation, the band saw RS 315 has to be adjusted by means of the screws in the machine feet in such a way that the pipe support and the saw blade guidance are horizontal.

Connect the mains plug to the local power supply 400 V / 16 A / 50 Hz or: 208-220 V AC/ 16 A / 50-60 Hz.

Connect the pressure regulator (optional) to the local compressed air supply (6-8 bars).

Remove the locking bolt on the right side from lug 1 (chapter 4.1).

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.

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

The saw arm has to be cleaned regularly – switch off the saw for that purpose! (see point 6.4)

5.1.1. How to adjust the compressed-air regulator

Slowly pressurize the complete system.

Pull the pressure setting button left (away from the housing).

Turn the pressure setting until the desired pressure is shown on the pressure gauge. The input pressure must be at least 1 bar greater than the output pressure.

Press the pressure setting button to the right (towards the housing) to secure it against unintentional turning.

Connection of compressed air hose for air supply 6-8 bar
5.2. How to make straight cuts

Check whether the wide saw blade (13 mm) is mounted, if necessary replace it.

Adjust the saw blade cover onto the corresponding height in relation to the pipe (chapter 4.4).

The saw has not been swiveled, the pointer of the scale is exactly on position 0° (see chapter 4.3) and the clamping levers of the swiveling device are tightened.

Lay the pipe onto the pipe support in such a way that the cutting edge is in front of the saw blade.

Switch on the optional laser at the slide switch (see point 4.4) and verify the cutting edge (the later course is optically indicated).

Clamp the pipe either with the manual clamping lever and turn the pipe clamper manually onto the pipe center at the same time.

Or clamp the pipe with the clamping belt.

Move the saw blade with the hand grip until it is just in front of the pipe.

Switch on the local exhaust.

Take care that no part of a body or foreign object is in the sawing area. Switch on the saw by pushing the push button on the top of the grip (or tread on the optional foot switch).

Pull the saw arm forwards in order to start cutting.

Release the push button (optionally foot switch) and push the saw behind the pipe again.

The saw still runs for appr. 3 sec after having released the push button.

Switch off the vacuum again.

Now the pipe can be unclamped by actuating the manual clamping lever and be removed.

Remove the cuttings and the remaining pieces.

5.3. How to cut angles

Check whether the wide saw blade (13 mm) is mounted, if necessary replace it.

Release the clamping lever on the swiveling device and adjust the saw onto the desired angle (up to max. 45° on both sides / 67.5° on one side) and tighten again the clamping lever.

Clamp the pipes and perform the cutting as described in chapter 4.5.
5.4. **How to mount the circular cutting device (optional)**

- In case of branch pipes, you have to use the 13 mm saw blade.
- You may use the 10 mm saw blade (optional) in order to cut small radii.
- There are rollers for each saw blade width that must be also replaced upon changing the saw blade width (for this, please see chapter 6.6).

Make sure upon mounting and dismounting the circular cutting device that it does not swivel unintentionally. Secure the device by a belt.

Otherwise you may crush your hands and fingers.

For saws with additional right pipe support (optional), you must dismount this pipe support before mounting the circular cutting device.

Dismount the two pan-head screws and remove the suction funnel.

Drive the saw arm to the front until the drill holes match lug 2 and lug 3 on the right side (chapter 4.1).
Put the locking bolt into both drill holes in order to lock the saw arm.
Take up the circular cutting device e.g. by a lifting device and put it to the front and the right side of the saw arm. Make sure that you do not damage the saw blade.

Put a belt around both beams in order to secure the device against unintentional swinging.

Mount the circular cutting device in the rear by a hexagon socket screw (M8) and washer.

Mount the circular cutting device in the front by four pan-head screws (M8) and washers.
5.5. How to adjust the circular cutting device

As soon as the circular cutting device is mounted it must be adjusted to the radius to be cut. The gap from the device’s center of rotation to the saw blade is the cutting radius, equaling ½ outer diameter (OD) of the main pipe to which the cut branch pipe is to be welded.

5.5.1. How to adjust the cutting radius

The sawing radius is adjusted by three screws. For its displacement detach the screws and push the device to the necessary dimension at the slotted holes, then tighten the screws again.

At the front adjuster, one screw has to be displaced according to the cutting radius. From outer diameter main pipe smaller than OD 320 mm to outer diameter OD 320 up to 480 mm.

The rear fixing screw also serves to the radius’ adjustment.
5.5.2. How to adjust the angle for branch pipe 45° and 60°

In case of branch pipes with angle 45° or 60° having to be cut, the prism thus has to be swiveled upwards. For this purpose detach the two screws in the rear from prism and support, swivel the prism upwards and mount the long fixings for angle 45° - branch, the short fixings for angle 60°.

5.5.3. How to adjust the gap from saw blade to pipe support

The cutting course should possibly be close to the pipe support. For this purpose, the prism can be continuously adjusted.

Swivel the circular cutting device in a way that the saw blade is next to the prism center. The gap of leading edge + prism center to saw blade should be approx. 10 - 20 mm.

In order to adjust the gap, detach the rear screws of the prism and swivel it upwards.

Now detach the screws on the support, displace them to the desired gap and tighten the screws again.

In case no angle has to be cut, fix the prism to the support again.

Carry out a swinging motion with raised prism but without pipe. The prism must not touch the saw blade!
5.6. How to clamp and cut branch pipes

The prism features two slots in order to hook in the belt. Always clamp the pipes as close as possible to the sawing cut.

- Adjust the saw blade cover just shortly above the pipe (Chapter 4.4).
- Put on the pipe and tightly clamp it by the belt (Chapter 4.6.1), thereby avoid deforming thin-walled pipes.
- Adjust the gap between center of rotation and saw blade to ½ OD of main pipe (as described in chapter 5.5.1).
- Activate the saw motor by pressing the push-button at the saw frame handle or by treading the optional foot switch.
- Carefully swivel the pipe against the running saw blade by the swivel arm handle and cut the pipe through.
- Release push-button or foot switch and wait for the saw blade to stand still.
- Now you can unclamp and take out the pipe, and remove the reject.
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 have to be basically performed with the machine in off position. |
| During this, the machine has to be secured against unauthorized switching on, e.g. by disconnecting the mains plug. |

| Prescribed maintenance and inspection work should be performed in time. We recommend inspection work after 1 year. |
| For machines with especially high usage percentage, the testing cycle should be shortened. The work should be performed at the WIDOS GmbH company or by an authorized partner. |

| You must clean the linear guidings weekly e.g. with a brush. |
| Check the linear guide carriages every 12 months and grease via lubricating nipples if necessary. |

- The operating staff has to be informed before starting 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 conducting.
- Only use original WIDOS spare parts for repair work.
- Store dry.
- Protect the machine from heavy shocks.
- Handle the machine carefully.

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. Transport

It is not necessary to disassemble the saw for the transport.

Push the saw arm to the front.
Secure the saw arm on the right hand side by inserting the locking pin in tab 2 and 3 (see also chapter: 4.1.

6.4. How to remove the cutting chips from the saw blade housing

Clean the saw blade housing from cuttings regularly. For that purpose disconnect the mains plug.
Release the star screw and put saw blade housing completely downwards.
Open up the two locks at the saw arm.
Open up the door on the left side (if necessary turn saw arm to the right) and remove all cutting chips.
Afterwards, shut saw arm again.
Connect the mains plug again to the local mains supply.

6.5. How to tension and adjust the saw blade

The saw blade is tensioned on the right side of the saw arm at the center deflection pulley. Release the counter nut with fork wrench size 30. Turn the eccentric with ring-fork-wrench 16 until the saw blade has the desired tension. Then secure the eccentric with the counter nut again.

The saw blade must run on the center of the pulleys. In case that it runs unevenly, check if the saw blade is in central position.
First disconnect the mains plug, then put saw blade housing completely downwards and open the saw arm.
The center position can be set on both deflection pulleys.
For that purpose release the fixing screws, then turn the set screws somewhat in or out (they rest on the faces of the deflection pulleys) if necessary.
Finally turn the saw blade manually (wear safety gloves!) in moving direction in order to check if it runs evenly.
If so, tighten again the fixing screws and close the saw blade housing.
Connect again the mains plug.

6.6. How to exchange the saw blade

Danger of injuries!
The tips of the saw teeth are sharp - for that reason wear safety gloves!
The saw blade is driven by the saw motor with drive wheel and runs over two deflection pulleys in the saw blade housing.

- Disconnect the mains plug in order to exchange the saw blade.
- Open the saw arm on the left side.
- Release the saw blade tension (see chapter: 6.5) and disassemble the cover of the saw blade guiding below.
- Release the tension of the idle pulleys by means of an eccentric bolt at the top and bottom (see chapter 4.2).
- Now remove the saw blade. If you change the saw blade width, then replace the idle pulleys now (chapter: 6.6.1)
Lay the new saw blade over the drive wheel and the deflection pulleys with the teeth showing to the backside of the housing.

Then turn the saw blade in the cutting area in such a way that the teeth show to the front (see photo on the left).

Remount the cover for the saw blade guidance. Reset the upper and the lower saw blade guidance (see point 6.5).

Now tension again the saw blade. Check by turning manually if the saw blade runs on the center of the pulleys, adjust it if necessary (see point 6.5).

Then close the saw blade housing, tighten the screws and connect again the mains plug.

### 6.6.1. How to replace the rollers

The rollers are axially sustained on the bearing and eccentric bolt by safety rings.

For the saw blade being 10 mm wide, there are rollers with a large bevel in order that the saw teeth do not run on the roller.

In order to replace the rollers (above and below), remove the safety rings and then pull off the rollers to the front. Push the new rollers onto the bolts with the large bevel showing to the front and mount the safety rings again afterwards.

### 6.7. Disposal

At the end of their lifetime, the machine and the wear parts have to be disposed of properly and non-polluting, and in accordance with the national laws of waste disposal.
7. Pneumatic and electric diagrams

Clamping pipe

Compact cylinder
DNBC-32-320-PPV-A

One-way flow control valve
GRLA-1/8-QS-6-RS-B
(2 Stück)

Hand lever valve
HS-4/3-1/8-B

Pressure regulator
LR-1/4-D-MINI

Compressed air supply 6 - 8 bar

Pneumatic diagram RS 315
circuit diagram

project designation: saw

machine type: RS315

number of sheets: 2

Date: 08.10.18
8. **Spare parts list**

You can access our website and select our spare parts lists via the qr code shown here. Select “RS 315”
9. Declaration of conformity

Issuing the declaration of conformity with regard to complying with the basic requirements and assembling the technical documentation is in the sole responsibility of:

<table>
<thead>
<tr>
<th>Manufacturer / Installation company:</th>
<th>WIDOS Wilhelm Dommer Söhne GmbH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>WIDOS GmbH</td>
</tr>
<tr>
<td></td>
<td>Einsteinstr. 5</td>
</tr>
<tr>
<td></td>
<td>D-71254 Ditzingen</td>
</tr>
</tbody>
</table>

Subject of the present declaration is the following device:

- **Product name:** Heating element butt welding machine
- **Model name:** WIDOS 2500 / OD 160
- **Machine number:**
- **Year of construction:**

For the stated device we herewith declare that it complies with the **basic requirements** stipulated in the following designated harmonizing regulations:

in the sense of the EC guideline EC-Machinery Directive 2006/42/EC

Statement of the relevant **harmonizing standards** referred to, or indication of the specifications that the conformity is declared for:

<table>
<thead>
<tr>
<th>Standard</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIN EN ISO 12100</td>
<td>Safety of machines, basic concepts, general layout guidelines</td>
</tr>
<tr>
<td>DIN EN 60204.1</td>
<td>Electric equipment of industrial machines</td>
</tr>
<tr>
<td>DIN EN 60555,</td>
<td>Electro-magnetic resistance</td>
</tr>
<tr>
<td>DIN EN 50082,</td>
<td></td>
</tr>
<tr>
<td>DIN EN 55014</td>
<td></td>
</tr>
<tr>
<td>DIN EN ISO 4414</td>
<td>Safety technology requirements at fluid technical devices and components (pneumatic part)</td>
</tr>
</tbody>
</table>

Entitled to compile the technical documentation:

<table>
<thead>
<tr>
<th>Name:</th>
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</tr>
</thead>
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<td></td>
<td>D-71254 Ditzingen</td>
</tr>
</tbody>
</table>

Signed on behalf of the company:

<table>
<thead>
<tr>
<th>Name, first name:</th>
<th>Dommer, Martin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function:</td>
<td>Technical director</td>
</tr>
</tbody>
</table>

Heimerdingen, 07.05.2019

Place / Date Legally binding signature

This declaration is to certify the compliance with the mentioned harmonizing regulations, however does not include any assurance of properties.