Working Instructions
Translation

Band Saw RS 630-1200

Keep for further use!
Product identification

<table>
<thead>
<tr>
<th>Type:</th>
<th>Band saw RS 600 – 1200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial number / year of construction:</td>
<td>see type label</td>
</tr>
</tbody>
</table>

Customer entries

<table>
<thead>
<tr>
<th>Inventory No.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
</tr>
</tbody>
</table>

Order of spare parts and after sales service

**Address of manufacturer**

**WIDOS**
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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. **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 630 / 800 / 1000 / 1200 is a special machinery for straight cutting plastic pipes up to Ø 630 / Ø800 / Ø1000 / Ø 1200 mm, and for cutting angles of max. 45° on both sides, max. 67,5° on one side, in the way described as follows.

The purpose-oriented use includes also that a sufficiently dimensioned, operational suction plant is connected to the machine.

**All use going beyond is not purpose-oriented.**

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

The machine 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 type label 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>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness of saw blade:</td>
<td>0.9 mm</td>
</tr>
<tr>
<td>Width of saw blade:</td>
<td>20 mm</td>
</tr>
<tr>
<td>Length of saw blade:</td>
<td></td>
</tr>
<tr>
<td>RS 630</td>
<td>6590 mm</td>
</tr>
<tr>
<td>RS 800</td>
<td>7290 mm</td>
</tr>
<tr>
<td>RS 1000</td>
<td>8540 mm</td>
</tr>
<tr>
<td>RS 1200</td>
<td>9340 mm</td>
</tr>
<tr>
<td>Total height:</td>
<td></td>
</tr>
<tr>
<td>RS 630</td>
<td>appr. 2500 mm</td>
</tr>
<tr>
<td>RS 800</td>
<td>appr. 2980 mm</td>
</tr>
<tr>
<td>RS 1000</td>
<td>appr. 3400 mm</td>
</tr>
<tr>
<td>RS 1200</td>
<td>appr. 3750 mm</td>
</tr>
<tr>
<td>Total depth:</td>
<td></td>
</tr>
<tr>
<td>RS 630</td>
<td>appr. 4200 mm</td>
</tr>
<tr>
<td>RS 800</td>
<td>appr. 4380 mm</td>
</tr>
<tr>
<td>RS 1000</td>
<td>appr. 5400 mm</td>
</tr>
<tr>
<td>RS 1200</td>
<td>appr. 5500 mm</td>
</tr>
<tr>
<td>Total width:</td>
<td></td>
</tr>
<tr>
<td>RS 630</td>
<td>appr. 4200 mm</td>
</tr>
<tr>
<td>RS 800</td>
<td>appr. 5560 mm</td>
</tr>
<tr>
<td>RS 1000 + RS 1200</td>
<td>appr. 5000 mm</td>
</tr>
<tr>
<td>Length of the pipe supports:</td>
<td></td>
</tr>
<tr>
<td>RS 630 + RS 800</td>
<td>1778 mm</td>
</tr>
<tr>
<td>RS 1000 + RS 1200</td>
<td>2270 mm</td>
</tr>
<tr>
<td>Max. diameter of pipes:</td>
<td></td>
</tr>
<tr>
<td>RS 630</td>
<td>630 mm</td>
</tr>
<tr>
<td>RS 800</td>
<td>800 mm</td>
</tr>
<tr>
<td>RS 1000</td>
<td>1000 mm</td>
</tr>
<tr>
<td>RS 1200</td>
<td>1200 mm</td>
</tr>
<tr>
<td>Cutting speed:</td>
<td>120 m/min</td>
</tr>
<tr>
<td>Weight:</td>
<td></td>
</tr>
<tr>
<td>RS 630</td>
<td>appr. 1.2 t</td>
</tr>
<tr>
<td>RS 800</td>
<td>appr. 2.0 t</td>
</tr>
<tr>
<td>RS 1000 + RS 1200</td>
<td>appr. 2.3 t</td>
</tr>
</tbody>
</table>
1.4.2. **Technical and electrical data of the laser**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>2-3 m</td>
</tr>
<tr>
<td>Power</td>
<td>5 mW</td>
</tr>
</tbody>
</table>

1.4.3. **Electrical data**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>400 V AC</td>
</tr>
<tr>
<td>Feeding</td>
<td>CEE – 16 A (phase converter)</td>
</tr>
<tr>
<td>Power</td>
<td>7,1 kVA</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 – 60 Hz</td>
</tr>
</tbody>
</table>

**RS 600 – 830**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage saw motor</td>
<td>400 V</td>
</tr>
<tr>
<td>Power saw motor</td>
<td>1,5 kW</td>
</tr>
<tr>
<td>Current</td>
<td>3,7 A</td>
</tr>
<tr>
<td>Speed of saw motor/feed motor</td>
<td>93 rpm</td>
</tr>
</tbody>
</table>

**RS 1000 – 1200**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage saw motor</td>
<td>400 V</td>
</tr>
<tr>
<td>Power saw motor</td>
<td>3,0 kW</td>
</tr>
<tr>
<td>Current</td>
<td>6,8 A</td>
</tr>
<tr>
<td>Speed of saw motor/feed motor</td>
<td>93 rpm</td>
</tr>
<tr>
<td>Voltage feed motor</td>
<td>3 * 230 V</td>
</tr>
<tr>
<td>Power</td>
<td>0,37 kW</td>
</tr>
<tr>
<td>Current</td>
<td>1,5 A</td>
</tr>
<tr>
<td>Speed feed motor</td>
<td>280 rpm</td>
</tr>
<tr>
<td></td>
<td>280 U/min</td>
</tr>
</tbody>
</table>
1.5. **Equipment and accessories**

<table>
<thead>
<tr>
<th>Pieces</th>
<th>Denomination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tool bag for 10 parts</td>
</tr>
<tr>
<td>1</td>
<td>Key for doors (saw blade guiding and switch cupboard). Hand out the key to authorized persons only!</td>
</tr>
<tr>
<td>1</td>
<td>Open ended wrench size 24</td>
</tr>
<tr>
<td>1</td>
<td>Open ended wrench size 17 / 19</td>
</tr>
<tr>
<td>1 each</td>
<td>Allan key with T grip, sizes SW 3, 4, 5, 6</td>
</tr>
<tr>
<td>1 each</td>
<td>Allan key tilted, sizes SW 3, 4, 5, 6</td>
</tr>
<tr>
<td>1</td>
<td>Combination spanner (bend) size 27</td>
</tr>
<tr>
<td>1</td>
<td>Combination spanner size 13</td>
</tr>
<tr>
<td>1</td>
<td>Socket spanner size SW 55 (for tensioning saw blade)</td>
</tr>
<tr>
<td>1</td>
<td>Tension belt for clamping pipes (optional)</td>
</tr>
<tr>
<td>1</td>
<td>Line laser Z5-24 (optional)</td>
</tr>
<tr>
<td>1</td>
<td>Vacuum AF14 (optional)</td>
</tr>
<tr>
<td>1 each</td>
<td>Working instruction for line laser Z5-24 / vacuum device AF14 (optional)</td>
</tr>
<tr>
<td>1</td>
<td>RS 1200 Combination spanner size 19</td>
</tr>
<tr>
<td>1</td>
<td>RS 630 + RS 800 Clamping belt 50 x 3500 mm (optional for manual travel)</td>
</tr>
<tr>
<td></td>
<td>RS 1000 + RS 1200 Clamping belt 50 x 4400 mm (optional for manual travel)</td>
</tr>
<tr>
<td>2 each</td>
<td>RS 630 Saw blade 6590 x 0,9 x 20 mm / 4 KSW 1,8</td>
</tr>
<tr>
<td></td>
<td>RS 800 Saw blade 7290 x 0,9 x 20 mm / 4 KSW 1,8</td>
</tr>
<tr>
<td></td>
<td>RS 1000 Saw blade 8540 x 0,9 x 20 mm / 4 KSW 1,8</td>
</tr>
<tr>
<td></td>
<td>RS 1200 Saw blade 9340 x 0,9 x 20 mm / 4 KSW 1,8</td>
</tr>
</tbody>
</table>
## 1.6. Wear parts list

<table>
<thead>
<tr>
<th>Piece / mach.</th>
<th>Denomination</th>
<th>Article no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Carbide guide (SNMA15 06 12 –KR)</td>
<td>J1506</td>
</tr>
<tr>
<td>4</td>
<td>Roller for saw blade guiding 3201 2 Z</td>
<td>L3201</td>
</tr>
<tr>
<td>3</td>
<td>Deflection pulley D400 (in exchange)</td>
<td>5442104</td>
</tr>
<tr>
<td>1</td>
<td>Drive wheel D400 (in exchange)</td>
<td>5442105</td>
</tr>
<tr>
<td>1</td>
<td>Line laser Z5-24</td>
<td>544001</td>
</tr>
</tbody>
</table>

### RS 630
- Saw blade 6590 x 20 x 0,9 mm / 4 KSW 1,8: 5406301
- Saw blade 6590 x 13 x 0,65 mm 4 Z/Z (optional): 5406300
- Saw blade 6590 x 20 x 0,9 mm 4 -6 ZpZ.S (optional): 5406302

### RS 800
- Saw blade 7290 x 20 x 0,9 mm / 4 KSW 1,8: 5408001
- Saw blade 7290 x 13 x 0,65 mm 4 Z/Z (optional): 5408000
- Saw blade 7290 x 20 x 0,9 mm 4 -6 ZpZ.S (optional): 5408002

### RS 1000
- Saw blade 8540 x 20 x 0,9 mm / 4 KSW 1,8: 5410001
- Saw blade 8540 x 20 x 0,65 mm / 4/Z (optional): 5410000
- Saw blade 8540 x 20 x 0,9 mm 4 -6 ZpZ.S (optional): 5410002

### RS 1200
- Saw blade 9340 x 20 x 0,9 mm / 4 KSW 1,8: 5412002
- Saw blade 9340 x 20 x 0,65 mm / 4/Z (optional): 5412000
- Saw blade 9340 x 20 x 0,9 mm 4 -6 ZpZ.S (optional): 5412002

<table>
<thead>
<tr>
<th>1</th>
<th>RS 630 / 800 Ratchet tie down (for clamping branch pipe)</th>
<th>J5443</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RS 1000 / 1200 Ratchet tie down (for clamping branch pipe)</td>
<td>J5431</td>
</tr>
</tbody>
</table>

| 2 each | RS 630 / 800 | Sliding plate (22,5°): 54414053 |
|        |              | Sliding plate (45°): 54414054    |
|        | RS 1000 / 1200 | Sliding plate (22,5°): 54411053 |
|        |               | Sliding plate (45°): 54411054    |
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 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 light injuries or damages on goods.

- This symbol gives important indications for the proper use of the laser.
  - The disrespect 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’s of 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 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 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 at 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 at the machine under supervision of an experienced person.
2.7.  **Dangers while handling the machine**

The band saw WIDOS RS 630 / 800 / 1000 / 1200 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 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 blade guiding is adjusted correctly and the doors of the saw bow are closed.
- Make sure that the protective shield of control panel (see Chapter: 4.1, no. 8) is mounted during saws.
- Wear tight clothes only, during the operation.
- Keep the handles dry and free from oil and grease.
- Wear safety glasses during the sawing 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 or shavings 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.
- System parts and pressure hoses should be depressurized before beginning of 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.
- 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!
- Two two-hand-operation buttons may only be pressed by one single person.
- 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 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 laser beams

The laser Z5-24 complies with laser class: 1M, analogue to standard DIN EN 60825-1.
- Do not straighten laser on people.
- Only turn-on the laser for the sawing function.
- Pay attention that nobody has to watch the reflected or direct laser beam for too long time.
- Wearing of safety glasses is not required for protective class 1M.

2.9.4. Danger of being injured by chips / oddments

- Do not cut without blinds device.
- Wear safety glasses during cutting.
- Adjust saw blade covering onto the pipe diameter.
- Never remove oddments as long as the saw is running.
- Always turn on exhaust while cutting.

2.9.5. Danger of crushing upon clamping the pipe, mounting / dismounting the circular cutting device

There may be an increased danger of jamming and bruising:
- while inserting and clamping the pipes
  - Make sure that no body part or object is lying on the pipe support while you are placing the pipe thereon.
  - Make sure that the clamping device only clamps the pipe otherwise release the button for clamping immediately
- while mounting or dismounting the circular cutting device.
  - Please make sure that the device is secured by a belt against an unintentional swiveling (chapter: Fehler! Verweisquelle konnte nicht gefunden werden, and 0).
2.9.6. **Danger of injury by noise**

Noise 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 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 parts of the work pieces which are squirting away.

2.12. **Structural modifications on the machine**

- No modifications, extensions or reconstructions may be made on the machine without permission of the manufacturer. In case of disrespect, the warranty or liability will expire resp. the EC declaration of conformity will get obsolete.
- Machine parts which are not in a perfect condition are to be replaced immediately.
- Only use original WIDOS spare and wear parts.
- In case of purchase orders please always state the machine and version number!

2.13. **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.

Activate after switching on the control unit the saw must be adjust (see chapter: 4.10 until 4.13).

Set the saw to the requested angle and secure it by clamping / snapping in.

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

Switch on the line laser.

Switch on the vacuum device.

Having finished all calibrating work, choose the feeding direction and feeding speed.

Drive the saw blade towards the pipe at a short distance.

Switch on the sawing motor and cut the pipe through.

When the cutting operation is completed, switch off saw blade motor and move the saw backwards.
4. Operating and indicating elements

4.1. Elements at the front side – automatic travel

<table>
<thead>
<tr>
<th>No.</th>
<th>Name / Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clamping device to clamp the pipes</td>
</tr>
<tr>
<td>2</td>
<td>Pipe support, left-and right hand</td>
</tr>
<tr>
<td>3</td>
<td>Multiple-position valve to clamp the pipes (optional)</td>
</tr>
<tr>
<td>4</td>
<td>Pressure regulator with pressure gauge and connection for compressed-air supply to set the clamping pressure for the pipe (see chapter : 5.1.1)</td>
</tr>
<tr>
<td>5</td>
<td>Swing rail for angle cutting</td>
</tr>
<tr>
<td>6</td>
<td>Saw arm with saw blade guiding</td>
</tr>
<tr>
<td>7</td>
<td>Laser (optional); the laser optically shows the later cutting course on the pipe surface</td>
</tr>
<tr>
<td>8</td>
<td>Protective shield</td>
</tr>
<tr>
<td>9</td>
<td>Saw blade</td>
</tr>
<tr>
<td>10</td>
<td>Vacuum and multi-pole socket for vacuum (optional)</td>
</tr>
<tr>
<td>11</td>
<td>Control panel with main switch</td>
</tr>
<tr>
<td>12</td>
<td>Hand lever to swivel the saw arm</td>
</tr>
<tr>
<td>13</td>
<td>Leveling foot, to adjust the machine</td>
</tr>
</tbody>
</table>
4.2. Elements at the front side – manual travel

<table>
<thead>
<tr>
<th>No.</th>
<th>Name / Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clamping device to clamp the pipes</td>
</tr>
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<td>Pipe support, left-and right hand</td>
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<td>Multiple-position valve to clamp the pipes</td>
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<tr>
<td>6</td>
<td>Saw arm with saw blade guiding</td>
</tr>
<tr>
<td>7</td>
<td>Laser; when being switched on, the laser optically shows the later cutting course on the pipe surface</td>
</tr>
<tr>
<td>8</td>
<td>Protective shield</td>
</tr>
<tr>
<td>9</td>
<td>Saw blade</td>
</tr>
<tr>
<td>10</td>
<td>Vacuum and multi-pole socket for vacuum</td>
</tr>
<tr>
<td>11</td>
<td>Control panel with main switch</td>
</tr>
<tr>
<td>12</td>
<td>Hand lever to swivel the saw arm</td>
</tr>
<tr>
<td>13</td>
<td>Leveling foot, to adjust the machine</td>
</tr>
<tr>
<td>25</td>
<td>Hand wheel; for the transverse course</td>
</tr>
</tbody>
</table>
Always swivel the saw by means of the hand lever; never use the control panel or the crank for swiveling the saw!

<table>
<thead>
<tr>
<th>No.</th>
<th>Name / Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Scale: $\theta$ showing the angle setting</td>
</tr>
<tr>
<td>16</td>
<td>Main switch, to switch the energy supply 0 (off) / 1 (on)</td>
</tr>
<tr>
<td>17</td>
<td>Joystick with button: $\theta$ if you push the button and joystick downwards, the saw blade motor is running</td>
</tr>
<tr>
<td>18</td>
<td>Turning switch: $\theta$ to switch the laser: 0 (off) / 1 (on)</td>
</tr>
<tr>
<td>19</td>
<td>Turning switch: $\theta$ to switch the clamps of the angle position: 0 (off) / 1 (on)</td>
</tr>
<tr>
<td>20</td>
<td>Turning switch: $\theta$ to switch the detent 0°: 0 (off) / 1 (on)</td>
</tr>
<tr>
<td>21</td>
<td>Scale: $\leftarrow\rightarrow$ showing the distance between the saw blade and the pipe center</td>
</tr>
<tr>
<td>22</td>
<td>Rotary switch: to switch the power socket for circular cutting device: $\leftarrow\rightarrow$ (off) / $\leftarrow\rightarrow$ (on)</td>
</tr>
<tr>
<td>23</td>
<td>Continuous rotary switch: $\leftarrow\rightarrow$ to regulate the transverse course speed of the saw blade</td>
</tr>
<tr>
<td>24</td>
<td>Joystick $\leftarrow\rightarrow$:</td>
</tr>
<tr>
<td></td>
<td>Shift joystick to $\leftarrow$ saw arm drives in cutting direction</td>
</tr>
<tr>
<td></td>
<td>Shift joystick to $\rightarrow$ saw arm drives backwards</td>
</tr>
<tr>
<td></td>
<td>Joystick in middle position $\rightarrow$ no travel</td>
</tr>
<tr>
<td>25</td>
<td>Turning switch: $\theta$ to switch the plug for vacuum: 0 (off) / 1 (on)</td>
</tr>
<tr>
<td>26</td>
<td>Turning switch: $\theta$ to switch the detent transverse course: 0 (off) / 1 (on)</td>
</tr>
</tbody>
</table>

* Operating elements optional
4.3.1. **Overload release in the control panel (automatic travel)**

Circuit breakers F2 + F40

The fuses F2 = 8A and F40 = 10A are located inside the control panel.

The circuit breaker F2 protects the switching power supply, the plug box for the laser and the emergency-off switch from overload.

The circuit breaker F4 protects the travel motor from overload.

- If the fuse has been blown, eliminate the cause for the overload.
- Switch off the main switch, open the control panel, lift the cover carefully and hold it.
- Activate the fuse, close the control panel and switch on again the main switch.

4.3.2. **Overload release in the control panel (manual travel)**

Overload release F2

The overload release F2 = 6A is located inside the control panel.

The fuse F2 protects the switching power supply, the plug box for the laser and the emergency-off switch from overload.

- If the fuse has been blown, eliminate the cause for the overload.
- Switch off the main switch, open the control panel, lift the cover carefully and hold it.
- Turn in the fuse, close the control panel and switch on the main switch again.
4.4. Elements at the right side

*Complete version:*

- 26 Frontal upper deflection pulley with set screws
- 27 Drive motor for saw band
- 28 Cylinder for locking saw blade on position center of tube
- 29 Cylinder for angle fixing 0°
- 30 Rear upper deflection pulley with set screws
- 31 Rear lower deflection pulley with set screws and eccentric for saw band tension
- 32 Holder for vacuum (optional)
- 33 Cylinder for clamping the angle setting
- 34 Center bolt for angle fixing 0° manual

*Only for manual travel:*

27
28
29
31
32
33
34
4.5. **Upper saw arm with laser and saw blade cover**

The saw blade guiding at the top is similar to the one below, but without masking plate. At the saw blade guiding of the top, no vacuum device is installed (see chapter: 4.7).

The saw blade cover should be adjusted in such a way that the lower edge is somewhat above the pipe to be cut.
- For adjusting the cover, release the star shaped screws, push the cover to the desired height and tighten again the star shaped screws.

4.6. **Laser (optional)**

A line laser is mounted at the upper saw arm. It is connected to the plug box on the right side of the saw arm. The laser beam shows the later cutting course on the clamped pipe.

The beam is adjusted in such a way that it stands vertically over the saw blade. If the light beam is misadjusted, it has to be aligned vertically again.
- The laser is switched on (1) / off (0) over the switch: <Laser> on the control panel.
- For adjusting the laser exactly, please refer to the attached operating manual of the manufacturer.
4.7. Lower blade guiding with connection for vacuum (optional)

At the lower saw blade guiding is a connector (optional) with connection for vacuum.

The vacuum (optional) has to be absolutely connected to the plug at the saw arm in the rear before cutting (chapter: 4.1 no: 10).

The plug is switched on <1>/ off <0> at the control panel by switch: (see chapter: 4.3 no: 24).

The saw blade runs through the saw blade guidings at the upside and at the downside. It is lead through the two rollers for guiding and carbide guides.
4.8. Upper saw blade guiding, flexible (optional)

The flexible upper saw blade guiding should be adjusted in the height while being cut with in a way that the lower edge is slightly above the pipe to be cut.

Adjusting of the guiding is done manually.

- Detach the two star screws and hold tight to the guiding meanwhile.
- Release the clamping lever afterwards, now you can shift the saw blade guiding.
- If the saw blade guiding is on the right spot, first tighten the clamping lever and then the star screws again.
4.9. Vacuum (optional)

- Place the optional vacuum onto the holder for vacuum on the right side of the bow.
- Mount both hose ends for evacuating the cutting chips onto the vacuum nozzle at the saw arm and at the nozzle of the vacuum device.
- Plug the connection cable into the socket for vacuum.
- Always activate the switch at the vacuum motor; evacuating is done via the switch at the operator panel (see chapter: 4.3, No. 24).

For the operation, maintenance, repair etc. please consult the separately included working instructions for the vacuum.
4.10. Fixing the position: 0° (automatic travel) (optional)

In order to do straight cuts and adjust the 0° position of the cutting angle, you must lock the saw arm in the 0° position (see chapter: 4.11)

- Put the switch $\text{\text{<0}}$ on the operator panel to position: $\text{<0}$.
- Shift the saw arm manually to the 90° position towards the pipe axis until the cylinder is located above the drill hole at the elbow (see chapter 5.3, large arrow);
- Put the switch $\text{<1}$ to position $\text{<1}$ and let the cylinder snap into the drill hole.
- Press $\text{<0}$ on the scale $\text{<0}$ as long as the display indicates 0°. Now the angle setting is calibrated.

4.11. Fixing the position: 0° (manual travel) (optional)

On the right side of the saw bow is the stop bolt for position 0°.
For making straight cuts and for calibrating the sawing angle, the saw bow must be locked in position 0°.

- For that purpose lift the eye bolt and swing it in such a way that the screw dips into the bored hole.
- Then swivel the saw bow slowly into position 0° and the stop bolt – supported by a spring – snaps in the bored hole of the swiveling device.
- For cutting angles lift the ring screw again and swing the locking bolt in a different position.

### 4.12. Fixing position 0° of saw blade distance

The saw blade distance is to be set to zero if the saw blade is in position center of pipe support.

- Press joystick: \(<\text{\textless} \text{\rightarrow} \text{\textgreater}\) depending on the position of the saw arm to forward \(<\text{\textless} \text{\rightarrow} \text{\textgreater}\) or backward \(<\text{\textless} \text{\rightarrow} \text{\textgreater}\). Move the saw blade slowly to position: “center pipe support”.
- Put switch: \(<\text{\textless} \text{\rightarrow} \text{\textgreater}\) to position: <1> and let the cylinder snap in (see chapter: Fehler! Verweisquelle konnte nicht gefunden werden. – small arrow).
- Release joystick: \(<\text{\textless} \text{\rightarrow} \text{\textgreater}\) afterwards.
- Press: \(<\Theta>\) on scale: \(<\text{\textless} \text{\rightarrow} \text{\textgreater}\) as longs as the display indicates: 0.0. The saw blade distance is thus set to zero.
4.13. Fixing the position: „pipe center“ (automatic travel)

Move the joystick: <−−−> to forwards −−− or backwards −−− according to the location of the saw arm; drive the saw blade slowly to position: „Center pipe support“.

Put the switch <1> to position <1> and let the cylinder snap in (arrow).

Release the joystick.

Each time you switch the saw on:
Press button: <−−−> on the scale: <−−−> as long as the display indicates 0,0. Now the saw blade distance is set.


A stopper block is mounted on the bracket and a stopper clip is mounted down on the front side of the saw bow so that the saw band can be moved into position “Center of Pipe”. This is necessary e.g. when cutting angles / T-pieces or when making negative radial cuts for branches and reduced T- / Y-pieces (only possible with optional transverse support and integrated turning of the saw band).

Swing the stopper clip in direction of the arrow. The saw bow then moves forward until it stops at the stop screw. The stop screw is factory-adjusted.

Stopper clip swiveled in:

Stopper clip swiveled out:

For cutting completely through a pipe, the stopper clip has to be swiveled out.
4.15. How to adjust pipe support

Depending on the size of the pipe and of the cutting angle, the pipe supports have to be displaced on the basic frame.

- For that purpose release the fixing screws, displace the pipe supports in the oblong holes (see arrow) and tighten again the screws.
4.16. Circular cutting devices (optional)

There are two sizes of circular cutting devices; they are mountable on all cutting sizes. You can cut branch pipes with angles $90^\circ / 60^\circ / 45^\circ$.

You can cut radiuses for main pipes with OD $110$ mm up to OD $500$ mm on the small circular cutting device, maximum cutting radius $400$ mm.

You can cut radiuses for main pipes up to OD $800$ mm on the large circular cutting device, maximum cutting radius $600$ mm.

*Image of the large circular cutting device:*

*Image of the small circular cutting device:*
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,
- economic operation of the machine.

5.1. Starting

For starting the operation, the band saw RS 630 / 800 / 1000 / 1200 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 guiding are horizontal.

Connect the mains plug to the local power supply 380 - 400 V / 16 A / 50–60 Hz.

Connect a pneumatic hose to the local compressed air supply (6 - 8 bar) and to the T-piece at the compressed air regulator.

It is necessary to connect a vacuum plant; a connection therefore is provided at the lower saw blade guiding (see chapter: 4.7)

In situations of danger for persons and the machine, let the joysticks loose or switch off the saw or unplug the mains plug!

- Cut only firmly clamped pipes!

Do not carry out cutting without blinds or safety glasses!

The cover of the band saw has to be opened regularly and the produced cuttings have to be removed! (see chapter 6.3)

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!

5.1.1. How to adjust the compressed air regulator

Slowly pressurize the complete system.

Pull the pressure setting button upwards (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 downwards (towards the housing) to secure it against unintentional turning.
5.2. How to switch the saw on

- Put the switch on position <0>.
- Switch on the main switch at the control panel (see chapter: 4.3, no. 16).
- Adjust angle adjustment and saw blade distance to zero point (see chapter: 5.3).

Check the running direction of the saw blade, press: <0> on the joystick and move the joystick down <↓> in order to start the saw blade motor: running direction according to label. In case of wrong running direction correct the rotary field direction directly at the input.

5.3. How to adjust the angle and saw blade distance

Each time you activate the saw you must:

- Adjust the 0° position of the angle (see chapter: 4.10 or 4.11)
- Optionally as driving to reference position it is also possible to set the saw blade distance on the saw with automatic travel. (see chapter: 4.13)

5.4. How to clamp the pipes

5.4.1. Pneumatic clamping (optional)

- Lay the pipes onto the pipe support in order to clamp them (take care that the saw blade is behind the pipe!).
- The clamping device is swiveled such that the pipe clamp is positioned over the axis of the pipe.
- You may shift the telescopic clamping arm if necessary. Release the clamping lever, shift the telescopic clamping arm to the requested position and fix it there again by the clamping levers.
• Now you may clamp the pipe. Direct the pipe clamp with one hand and with the other hand press 👆 at the multiple-station valve: 👆 ◀️ ▶️ ◀️ ▶️ until the pipe is clamped. As soon as you release the button, the pipe clamp will stop.

• You may adjust the clamping pressure by the pressure regulator. Make sure that the pipe is clamped tightly but not deformed.

• Having completed cutting, press 👆 in order to drive the pipe clamp upwards again.

5.4.2. How to clamp with the clamping belt (optional)

• Lay the pipe onto the pipe supports (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 aperture of the ratchet and tighten it (see right picture).

• 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.

• The belt can be unclamped again by pulling the safety gripper into direction of the ratchet grip.

Attention! Do not deform pipes with thin walls.
5.5. How to make cuts

Cutting angles with 0° and >0° up to 45° is possible on both sides, cutting of angles of 67,5° is only possible on one side. In order to cut 67,5° you must shift the left pipe support entirely to the left (see chapter: 4.15).

The saw is turned-on, angles and saw blade distance are adjusted (see chapter: 4.10 up to: 4.13).

The pipe is clamped (see chapter: 5.4) and a vacuum is installed and switched on.

- Noise exceeding 80 dB (A) may occur; during sawing it is obligatory to wear ear protection!
- Always swivel the saw by means of the hand lever; never use the control panel or the crank for swiveling the saw!
- You can injure your eyes from flying cutting chips; always wear safety glasses while sawing!

In case of pipes with angles of >45° up to 67,5°, you must cut through the stump angle from 32,5° up to <45° first and then swivel the saw into the opposite direction in order to cut copped angles.

5.5.1. How to saw pipes with 67,5° - 0° - 45° with automatic travel

Setting angle 0°:
- In case the angle on the scale does not indicate 0°, put the switches 0° and 0° to <0>.
- Now swivel the saw arm by lever (12) under the right side of the operator panel until the scale indicates 0°.
- Put the switch 0° to position <1> and let the cylinder snap into the drill hole (see chapter: 4.10).

Setting angle 67,5° - 45°:
- In case the angle is fixed put the switches 0° and 0° to <0>.
- Now swivel the saw arm by lever (12) under the right side of the operator panel until the scale indicates the desired angle.
- Put the switch 0° to position <1> and fix the angle.

- Switch on the laser (optional) by putting 1° to position <1>; the cutting line is indicated on the pipe.
- Switch on the vacuum (optional) by putting 1° to position <1>.
- Put the switch 0° to position <0>; by this you release the travel locking device.
- In case you want to cut only to the pipe center, then adjust the limit stop for position: „pipe center“ (chapter: 4.13).
- Push the joystick 1° to <→>, the travel in cutting direction starts — adjust the travel speed using the control dial 1°. Drive the saw blade towards the pipe at a short distance.
Starting and operating

Chapter 5

- Additionally press the button at the joystick [and move the joystick downwards <↓> for activating the saw blade motor. Cut the tube, with appropriate feed rate through.

- Having cut the pipe through, release both joysticks [and this will shut off the saw blade motor and travel motor.

- Push the joystick: <↓> to <↔>, the saw arm drives backwards – drive the saw blade behind the cut pipe again; adjust the speeds using the control dial: [and move the joystick downwards <↓> to position <1>.

- Release the joystick: <↓> thus stopping the drive of the saw arm.

- Shut off the laser by putting the switch [to position <0>.

- Shut off the vacuum by putting the switch [to position <0>.

Now you can remove the cut pipe pieces.

5.5.2. How to saw pipes with 67,5° - 0° - 45° with manual travel

Setting angle 0°:

- In case the angle on the scale < does not indicate 0°, put the switch [to position <0>.

- Now swivel the saw arm by lever (12) under the right side of the operator panel until the scale indicates „0°“.

- Turn the lock bolt for position 0° and let it snap in (see chapter: 4.11).

Setting angle 67,5° - 45°:

- In case the angle is fixed put the switch [or unlock the locking bolt.

- Now swivel the saw arm by lever (12) under the right side of the operator panel until the scale < indicates the desired angle.

- Put the switch [to position <1> and fix the angle.

- Switch on the laser (optional) by putting [to position <1>; the cutting line is indicated on the pipe.

- Switch on the vacuum (optional) by putting [to position <1>.

- Drive the saw blade towards the pipe at a short distance with the crank.

- Press the button at the joystick [and move the joystick downwards <↓> for activating the saw blade motor. Cut the tube, with appropriate feed rate through.

- Having cut the pipe through, release joystick [this will shut off the saw blade motor.

- Move the saw band again behind the cut pipe by means of the crank.

- Shut off the laser by putting the switch [to position <0>.

- Shut off the vacuum by putting the switch [to position <0>.

- Unclamp the clamped pipe end.

Now the cut pipe parts can be removed.
5.6. Mounting the circular cutting device

In order to be able to mount the circular cutting device, the saw band is completely driven to the rear. The pipe supports must

- be placed completely to the outside (arrow) on both sides in case the sawing radii is up to max. 285 mm.
- be detached in case of a sawing radii of > 285 mm and displaced by 180° (image below). Then, the pneumatic hoses have to be removed first resp. the plugs to be exchanged (image on the right). The pneumatic pipe clamping remains mounted on the left pipe support.

Remove blinds upwards

Fixing screws (4 pieces per pipe support) for removing or displacing the pipe support

Image shows left pipe support being shifted by 180° (for cutting radii larger than 285 mm)

The mounting of pipe supports and blinds is effected in reversed order, thereby reconnect the pneumatic hoses to the hand valve as follows:

- pneumatic hose „blue“ from cylinder to rear connector
- pneumatic hose „black“ from cylinder to front connector
- pneumatic hose „blue“ from pressure control valve to T-piece of centre connector
5.6.1. Circular cutting device up to radius 400 (optional)

The circular cutting device should be lifted with chains at the three marked ring bolts while transporting it. Adapt the length of each chain in order that the circular cutting device is in balance. In case you are lifting the circular cutting device up with belts, then attach one belt to the ring bolt – which is marked with 1 – and another belt around the prism. Make sure in any way that the circular cutting device is in balance.

**Important!** The safety bolt must be screwed in for each transport in order that the device cannot swing unintentionally.
The circular cutting device is mounted to the saw arm with three screws. The screws are at the same time used for the set-up of the cutting radius.
The circular cutting device is plugged to the power socket at the lower base frame. After having moved the saw arm completely to the rear, the power socket is located on the lower left side in front of the saw arm.

**Attention!** The saw arm must be moved completely to the rear before you plug the circular cutting device into the power socket.

**Attention!** While cutting with the circular cutting device there is the danger of stumbling over the lower rear base frame; therefore it has been marked with safety strips as a warning.
As soon as the circular cutting device is mounted, detach the safety bolt. You can screw the safety bolt into the base frame from below in order to store it.
5.6.2. Circular cutting device OD 600 (optional)

The circular cutting device is to be taken up at three ring bolts in order to get transported.

- **Important!** The safety screw must be tightened for each transport in order that the device cannot rotate unintentionally.

- Take care that the lifting belts must have different length!
- Take care that the lifting belts cannot be damaged by saw blade!

- If the centre ring bolts are not installed mount them.
- Take the short lifting belts at the centre ring bolts and the long lifting belts at the outer ring bolts.
- Suspend the lifting belts from the crane in a way that the circular cutting device is hanging parallel to the machine and may be placed into the machine from the right.
Put the device to the machine from the right side.

Make sure that during mounting the laser and lifting belts are not damaged by saw blade. Take care that the laser is not adjusted!

Take care that the central lifting belts must have different length so that the circular cutting device is suspended horizontally.

Example: Short lifting belts appr. 1100 mm and long lifting belted appr. 1450 mm
These screws are simultaneously used to adjust the cutting radius.

Remove the lifting belts, safety screw and center ring bolts after having mounted the circular cutting device!

Put the water level onto the circular cutting device, now adjust the circular cutting device by the adjusting screw, and then secure by the counternut.

If you remove the circular cutting device, first remove the brackets and don’t put the circular cutting device onto the supports.

The brackets are intended for align.
Attention! While cutting with the circular cutting device there is the danger of stumbling over the rear base frame; therefore it has been marked with safety strips as a warning.
5.7. How to adjust the circular cutting device

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

In order to cut with the circular cutting device, the saw blade must be in angle position „0°“. For this purpose, manually swing the saw frame to the centre.

- In case the angle on the scale does not indicate “0°”, put the switches \( <0> \) and \( >1 \) to \( <0> \).
- Turn the saw arm into the 90° position towards the pipe axis until the cylinder with automatic travel is located above the drill hole at the elbow (chapter: 4.10); and the locking bolt with manual travel is located above the drill hole at the elbow (chapter: 4.11)
- Put the switch \( <0> \rightarrow >1 \) to position: 1 and let the cylinder snap in the drill hole with automatic travel resp. let the locking bolt snap in with manual travel.

In order to adjust the gap = ½ OD main pipe detach the three fixing screws. Now, the device can be displaced to the desired dimension in the slotted holes, then do not miss to tighten screws again.

5.7.1. Adjust gap from saw blade to pipe support

The cutting course is recommended to be as close as possible to the pipe support. For that purpose it is possible to continuously shift the prism with its support.

- Swivel the cutting device in a way that the saw blade is alongside the prism center.
- The gap to the saw blade is recommended to be appr. 15 – 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 and shift them to the desired gap. Unless an angle is to be cut, screw the prism to the support again.

With the prism being upright, you have to carry out a swivel test without clamped pipe in order to control that the saw band does not touch the prism.

5.7.2. Adjust angle for branch pipe 45° and 60°

In case of branch pipes to be cut in 45° or 60°, the prism must be swiveled upwards accordingly.

For this purpose detach the two rear fixing screws.

For a 45° angle branch the long fixings are mounted, for a 60° angle branch the short ones.

Tighten the pipe with the clamping belt in a way that the belt cannot be damaged during the cutting process!
5.8. How to clamp the branch pipe

Prior to the clamping of the pipe you must put the swiveling arm to the left side until the saw blade is behind the pipe to be clamped. The pipe is clamped on the prism by a tension belt.

5.9. Cutting the branch pipe

During the cutting of a branch pipe we recommend lifting the vacuum (optional) off its holder and placing it laterally to the saw.

The cutting device is set to the radius = ½ OD main pipe (chapter: 5.7). The gap from saw blade to prism is adjusted and controlled by a prism being upright (chapter: 5.7.1 + 5.7.2).

Noise exceeding 80 dB (A) may occur; during sawing it is obligatory to wear ear protection!

Now the cutting can be carried out:

- Activate the vacuum (optional) by putting the switch to position <1>.
- Press the button at the joystick and move the joystick downwards activating the saw blade motor.
- Turn the clamped pipe carefully against the running saw blade by the handle at the swivel arm and cut the pipe through.
- As soon as you have cut the pipe through, release the joystick shutting the saw blade motor off.
- Shut off the vacuum by putting the switch to position <0>.
- Release the clamping belt.
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.
- Prescribed maintenance and inspection work should be performed in time. We recommend inspection work after 1 year.
- For machines with a specially high usage percentage the testing cycle should be shortened.
- The work should be performed at the WIDOS GmbH company or by an authorized partner.

- The linear guides for heating element and planer must be cleaned every week e.g. with a brush.
- Check the linear guide carriages every 12 months and grease them over the lubricating nipple if necessary.
- Chips or other impurities in the guides can be the cause if the heating element or the planer jam or run 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 the machine dry.
- Protect the machine from heavy shocks.
- Handle the machine carefully.
- We basically recommend removing regularly any remaining cuttings (switch off the machine!). For that purpose, detach 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. How to remove the cuttings from the saw arm

Regularly remove any remaining cuttings from the saw arm.

- For that purpose switch the saw off at the main switch and open the saw arm on the left side
- Remove the cuttings for example by vacuuming
- Close the housing and switch on the saw at the main switch again.

Danger of injuries!
The tips of the saw teeth are sharp, don’t remove chips with fingers!

6.4. How to adjust the saw arm

On the right side and on the left side of the saw arm, supporting holders are mounted as guiding on the swiveling device. The supporting holders have each four bearing rollers between which the swiveling device is lead. The saw arm is adjusted with the set screws in the footings of the basic frame and of the swiveling device. The precise vertical and horizontal adjustment is done with the set screws and the fit screws. For adjusting, the fit screws are released and then the set screws are somewhat screwed in and out.

- For adjusting, the fit screws are released and then the set screws are somewhat screwed in and out.
- Check the position of the saw arm with an air level; if the saw arm is in the vertical as well as in the horizontal line, the fit screws are tightened again.
- Then swivel the saw arm manually to check if the rollers run well.
6.5. How to adjust the saw blade

Danger of injuries!
The tips of the saw teeth are sharp → wear safety gloves!

The saw blade is driven by the saw motor with drive wheel and runs over three deflection pulleys within the saw arm.

The photo shows the open saw arm:

- 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.
- Move the saw backwards and switch it off.
- Unscrew the doors of the saw arm and open the housing.

The central position can be adjusted on the three deflection pulleys.
- For adjusting, release the fixing screws.
- Then screw in or out somewhat the set screws (which rest on the fore-part of the deflection pulleys).
- Finally switch on the saw.
- Turn the saw blade manually (wear gloves!) into running direction in order to check if it runs evenly.
- If so, tighten again all fixing screws.
- Close again the saw arm.

- The saw blade is only tensioned at the lower deflection pulley.
- For that purpose, release the counternut; turn the eccentric until the saw blade has the desired tension.
- Then secure the position of the eccentric by tightening the counternut.
- The tension is released in the same way (e.g. in order to exchange the saw blade).
6.6. **How to exchange the saw blade**

**Danger of injuries!**

The tips of the saw teeth are sharp ⇒ wear safety gloves!

- In order to replace the saw blade, move the saw arm backwards and switch it off at the main switch.
- Open the saw arm on the left side.
- Release the saw tension at the lower deflection pulley (see chapter: 6.5). Dismount the guard plate of the saw blade on the front side (down) of the saw arm. Loosen one or two pan-head screws on the rollers.
- The saw blade can be removed now.

- Lay the new saw blade on the central position of the deflection pulleys, with the teeth showing to the back wall of the saw arm.
- Then turn the saw blade in the cutting area with the teeth showing to the front side and insert it between the rollers and carbide guides (above and below).
- Mount the guard plate again. Screw the rollers firmly and make sure that the saw blade is run well and keep both wheels are still turning against each other.

You can adjust the gap between the saw blade and carbide guides.

- Turn the adjusting screw slightly in / out. The gap between the saw blade and carbide guide should be 0,1mm to 0,2 mm on both sides.
- Turn the saw blade manually (do wear gloves!) in order to check its constant running; in case the running is not correct, repeat alignment (see chapter: 6.5).
- Afterwards, shut the doors of the saw arm.
- Activate the main switch of the saw.
6.7. **Clean / renew the chip bag (optional)**

Clean the chip bag if the level of the cutting chips in the chip bag reaches 150 mm below the edge of the attachment (see working instruction „AF14“).

6.8. **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.
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### Chapter 7

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#### Clamping Device (Option)
- Band saw commutation (option)
- Angle measuring device
- Way measuring system (option)
- Plug socket laser

#### Angle Measuring Device (Option)
- Clamping Device
- Way Measuring System (Option)

### Drawing Information

- **Commission**: 00000
- **Revision**: C
- **Date of Print**: 19.04.18
- **Number of Sheets**: 12
- **Project Status**: 19. April 2018

**WIDOS**

**Product**: RS 630−1600−version

**Manufacturer**: WIDOS

**Project Name**: RS 630−1600_EN−2018

**Drawing Number**: RS 630−1600_EN−2018
### Electric and pneumatic diagrams

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**note**

- Feed motion forward/backward
- Frequency inverter feed motion
- *

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**commission**

- 00000

**number of sheets**

- 12

**date of print**

- 2018-04-18

**project status**

- 19. Apr. 2018

**WIDOS**

- 1 INST

**project designation**

- pipe saw RS630 - 1600 - version

**manufacturer**

- = INST+LOC1-XD3

**drawing number**

- RS630-1600_EN-2018
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Push button band saw (option)

Emergency stop (option)
circuit diagram

project designation pipe saw RS630-1600 200V-version
machine type RS630 - 1600 200V
customer USA

year of manufacture 2018
serial number Seriennummer
commission 00000
number of sheets 14
Date 19.04.18
Chapter 7

Clamping device (option)
200V 60Hz
0,85A
0,25kW

Clamping device (option)
200V ~
Table: Electric and pneumatic diagrams

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Note: The table and diagram are used to illustrate the connections and components of an electric and pneumatic system. The specific components and their symbols are shown in the table.
### Electric and pneumatic diagrams

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## Electric and pneumatic diagrams

### Chapter 7

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### Electric and Pneumatic Diagrams

<table>
<thead>
<tr>
<th>Section</th>
<th>Diagram Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.12.1</td>
<td>Installation instructions for connecting control unit</td>
</tr>
<tr>
<td>7.12.2</td>
<td>Installation instructions for connecting control unit</td>
</tr>
<tr>
<td>7.12.3</td>
<td>Installation instructions for connecting control unit</td>
</tr>
<tr>
<td>7.12.4</td>
<td>Installation instructions for connecting control unit</td>
</tr>
</tbody>
</table>

### Notes

- End position forward.
- End position backward.
- First motion forward.
- First motion backward.

---

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<table>
<thead>
<tr>
<th>Note</th>
<th>Push button, limit switch (open)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Both button, limit switches</td>
</tr>
<tr>
<td></td>
<td>Both button, limit switches</td>
</tr>
</tbody>
</table>

### Wiring Diagram

```
plug connection = INST+LOC1→X0

<table>
<thead>
<tr>
<th>Port</th>
<th>Port</th>
<th>Port</th>
<th>Port</th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
```

**NOTE:**
- Make sure all connections are secure.
- Ensure all components are compatible with the system.

---

**Commissioning:**
- Date: 10.04.2018
- Contractor: WIDOS
- Project: RS 630 - 1200
- Type: 3000V Version

---

**Contractor Note:**
- Ensure all safety measures are in place.
- Test all connections before operation.

---

**Project Status:**
- Date: 19.04.2018
- Status: Complete
## Electric and Pneumatic Diagrams

### Chapter 7

#### Plug Connection: \( =1\text{INST}+\text{LOC1}−\text{XG81} \)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
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</thead>
<tbody>
<tr>
<td>XB17</td>
<td>5.2</td>
</tr>
<tr>
<td>XB18</td>
<td>5.2</td>
</tr>
<tr>
<td>XB19</td>
<td>5.2</td>
</tr>
<tr>
<td>SF92-21</td>
<td>4.5</td>
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<tr>
<td>XB28</td>
<td>4.5</td>
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<td>SF92-21</td>
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<td>XB28</td>
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<td>16</td>
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<tr>
<td>XB1-PES</td>
<td>5.2</td>
</tr>
</tbody>
</table>

### Note

- Clamping device forward
- Clamping device backward
- Clamping device (option)

---

**Commission:** 000001  
**Revision:** 1  
**Date:** 19.04.18  
**Name:**  
**Schematics:**  
**Manufacturer:**  
**Project Designation:** ppe saw RS630–1600 200V–version  
**Plug Connection:** \( =1\text{INST}+\text{LOC1}−\text{XG81} \)  
**Drawing Number:** RS630–1600 USA EN 2018
8. Declaration of conformity

In the sense of the guideline EC Machinery Directive 2006/42/EG

Corporation

WIDOS GmbH
Einsteinstr. 5
D-71254 Ditzingen

declare under own responsibility that the product

Band Saw
WIDOS RS 630 - 1200

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

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

2. DIN EN 60204.1
   Electric equipment of industrial machines

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

4. DIN EN ISO 4414
   Safety regulations for fluid-technical devices and components (pneumatic)

The technical documentation is completely available.

Ditzingen, the 07.05.19

[Signature]

Martin Dommer (Technical director)