Working instructions
Translation

WI–CNC® 6.0 hydraulic control unit
Product description

Model: Hydraulic control unit
Type: WIDOS WI–CNC® 6.0
Serial number, year of construction: See type plate

Customer registration

Inventory no.:  
Location:  

Spare parts ordering and customer services:

Manufacturer’s address

WIDOS
Wilhelm Dommer Söhne GmbH
Einsteinstr. 5
D -71254  Ditzingen

Telephone: 07152 9939 0
Fax: 07152 9939 40
e-mail: info@widos.de
Introduction

Purpose of the document

This operating manual provides answers to all the most important questions pertaining to the technical structure and safe operation of your machine.

Both we and you are obliged and required to study this operating manual, on grounds of both economical and safe operation, to prevent damage and injury.

Should you have any further questions, please do not hesitate to contact our advisers either in our works in Germany or our representatives abroad.

We will be happy to help.

In the interests of the continual improvement of our products and operating manuals, we would ask that you would keep us informed of errors, defects and problems which develop.

Thank you very much.

The structure of this operating manual

This operating manual is sub-divided into chapters pertaining to the different functions of the machine.

This division will direct you to the information which you need.
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1. Product description

The chapter “Product description” provides the reader with important basic information about the product and its intended use.
It presents an overview of all the technical details of the machine.

1.1. Intended use

The WIDOS WI-CNC® 6.0 is designed for the welding and logging of butt welds in conjunction with the WIDOS butt welding machine 4400 - 6113.

Every other use of the WI-CNC® 6.0 is taken to be non-intended use.

The WI-CNC® 6.0 described here may only be operated, maintained and repaired by personnel cognizant with the dangers involved.

The manufacturer bears no liability for damage resulting from the improper handling or operation of the WI-CNC® 6.0.

The operator alone is liable for such damage.

The WI-CNC® 6.0 used in conjunction with a welding machine developed by WIDOS GmbH is safe to operate when used in accordance with the specifications.

Intended use also includes:
- Compliance with all the stipulations of the operating manual.
- The performance of inspection and maintenance work.

1.2. Precautionary measures

Incorrect use of the machine or its incorrect operation or maintenance can result in the damage or destruction of the machine itself and other products in its vicinity.

Persons in the danger area can suffer injury as a result.

As a result, it is imperative that you read this operating manual carefully and comply with the corresponding safety instructions.

1.3. Conformity

The structure of the system complies with the valid EC directives and the relevant European standards.

The machine has been developed, produced and fitted with the greatest of care.
1.4. **Product marking**

The product is marked with a type plate. This specifies the device type, its serial number and the year of construction.

1.4.1. **Technical data**

This operating manual contains the most important technical data of the individual components. This provides a quick overview of the capacity and structure of the machine.

1.4.1.1. **WIDOS WI-CNC® 6.0 General data**

<table>
<thead>
<tr>
<th>Dimensions (LxWxH):</th>
<th>c. 350 x 570 x 490 (mm)</th>
<th>Height c. 580 mm with open cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight:</td>
<td>38.5 kg</td>
<td></td>
</tr>
<tr>
<td>Feed:</td>
<td>max. 3.6 kW</td>
<td></td>
</tr>
<tr>
<td>Voltage:</td>
<td>230 VAC (± 10%)</td>
<td></td>
</tr>
<tr>
<td>Current draw:</td>
<td>max. 16 A</td>
<td></td>
</tr>
<tr>
<td>Frequency:</td>
<td>50 Hz</td>
<td></td>
</tr>
<tr>
<td>Hydraulic pressure</td>
<td>max. 200 bar</td>
<td></td>
</tr>
<tr>
<td>Protection type:</td>
<td>IP 44</td>
<td></td>
</tr>
</tbody>
</table>

1.4.1.2. **WIDOS WI-CNC® 6.0 - model 16 A General data**

<table>
<thead>
<tr>
<th>Dimensions (LxWxH):</th>
<th>c. 350 x 665 x 610 (mm)</th>
<th>Height c. 710 mm with open cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight:</td>
<td>c. 42 kg</td>
<td></td>
</tr>
<tr>
<td>Feed:</td>
<td>max. 11 kVA</td>
<td></td>
</tr>
<tr>
<td>Voltage:</td>
<td>400 V (± 15%)</td>
<td></td>
</tr>
<tr>
<td>Current draw:</td>
<td>max. 3*16 A</td>
<td></td>
</tr>
<tr>
<td>Frequency:</td>
<td>50 Hz</td>
<td></td>
</tr>
<tr>
<td>Hydraulic pressure</td>
<td>max. 200 bar</td>
<td></td>
</tr>
<tr>
<td>Protection type:</td>
<td>IP 44</td>
<td></td>
</tr>
</tbody>
</table>

1.5. **Fixtures and accessories**

<table>
<thead>
<tr>
<th>Qty. / machine</th>
<th>Designation</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USB flash drive with 4 GB</td>
<td>EPR1060</td>
</tr>
<tr>
<td>1</td>
<td>Bar code – scanner (optional)</td>
<td>EG0004</td>
</tr>
<tr>
<td>1</td>
<td>Exterior temperature sensor</td>
<td>EE0404</td>
</tr>
<tr>
<td>1</td>
<td>Label printer</td>
<td>EG6210</td>
</tr>
</tbody>
</table>

Order numbers and individual parts (see spare parts lists) can be requested from WIDOS.
2. Safety instructions

Familiarity with the basic safety instructions and safety regulations is a basic requirement for the safe use and fault-free operation of this machine.

- This operating manual provides all the most important information requisite to the safe operation of the machine.
- All those working on the machine must comply with the safety instructions.

2.1. Symbols and instructions

The operating manual uses the following designations and signs for hazards.

This symbol indicates a possible danger for the life and health of persons resulting from electrical energy.
- Failure to comply with these instructions can result in serious damage to human health.

This symbol indicates a potentially dangerous situation.
- Failure to comply with these instructions can result in light injuries or property damage.

This symbol indicates a possible danger from hot surfaces.
- Failure to comply with these instructions can result in considerable burns or ignition and even fire.

This symbol gives important information for the correct handling of the machine.
- Failure to comply with these instructions can result in malfunctions on and damage to the machine or objects in its vicinity.

This symbol introduces application tips and especially useful information.
- It helps you to ensure best use of the machine and facilitates working practice.

The accident protection regulations apply.

2.2. Obligations of the operating company

The operating company undertakes only to permit those personnel to operate the machine who:

- Is conversant with the basic work safety and accident prevention regulations and has been trained to operate the machine.
- Has read and understood the safety chapter and the warnings in this operating manual and has provided confirmation of this fact with their signature.

The safety-conscious working practice of personnel is to be checked at regular intervals.
2.3. **Obligations of the operator**

Before commencing work, all persons tasked with working on the machine undertake to:

- Comply with the basic work safety and accident prevention regulations.
- To read the safety chapter and the warnings in this operating manual and to confirm with their signature that they have understood them.
- To inform themselves about the machine operation before its use.

2.4. **Organizational measures**

- The operating company is to provide the requisite personal protective equipment.
- All safety equipment is to be subject to regular inspection.

2.5. **Safety information**

- The operating manual must be stored at the site of operation of the machine. It must be easily accessible to the operating personnel at all times.
- In addition to this operating manual, the generally-valid, local accident prevention and environmental protection regulations are to be made available and require compliance.
- Maintain all safety and hazard warnings on the machine in a legible state.
- Following every sale or loan of the machine to other persons, the operating company is to hand over the operating manual and point out its importance.

2.6. **Instructions for personnel**

- Only trained and instructed personnel may operate the machine.
- Personnel responsibilities pertaining to transport, setup and disassembly, commissioning and dismantling are to be established clearly.
- Personnel requiring training may only be permitted to operate the machine under the supervision of an experienced person.

2.7. **Dangers when using the machine**

The WI-CNC® 6.0 hydraulic control unit has been built in accordance with the current state of the art and recognised safety rules.

Nevertheless, dangers exist for the operator, other persons in the vicinity of the machine and material. Only use the machine:

- For its intended purpose.
- In a safe fashion.

*Malfunctions which could compromise safety must be rectified immediately.*
2.8. Dangers from electrical energy

Work on the electrical equipment may only be performed by specialist electricians. If work must be performed on live parts, work with a second person, who can disconnect the power connection when required.

- Arrange for regular inspection of the electrical equipment on the machine.
- Repair all loose connections and damaged cables immediately.
- VDE 0100 prescribes that operation of the machine on construction sites is permitted only when using a power distributor with a RCD safety switch.

2.9. Especial dangers

2.9.1. Danger of tripping over the electrical line

- Make sure that no persons need to walk over the electrical line.

2.10. Construction modifications to the machine

- No modifications, additions, extensions or conversions to the machine may be undertaken without the permission of the manufacturer. Infringement of this provision will void the claim to warranty and liability.
- Replace machine parts immediately which are not in a faultless state.
- Only use original WIDOS spare and wear parts.
- When making orders, always stipulate the machine and version number.

2.11. Warranty and liability

Our "general sales terms and delivery conditions" apply as a matter of principle. These will be made available to the operating company by the conclusion of the contract at the latest. We do not accept warranty and liability claims resulting from injury and material damage based on one or more of the following causes:

- Non-intended use of the machine.
- Improper transport, commissioning, operation and maintenance of the machine.
- Failure to comply with the instructions contained in the operating manual.
- Unauthorized constructive alterations to the machine.
- Poor monitoring of machine parts which are subject to wear.
- Incorrectly-performed repairs.
- Accidents caused by outside influence or force majure.
3. Functional description

The WI-CNC® 6.0 calculates the parameters based on the type of plastic, the pipe diameter and the wall thickness (optionally also the outside temperature) selected, which are required to perform a welding run with a corresponding welding machine from WIDOS GmbH.

The WI-CNC® 6.0 automatically recognizes the basic machine (including distance meter and a heating element with PLC function) when they are connected.

The corresponding pipe data is selected manually on the touch screen.

Welding with the WIDOS WI-CNC® 6.0 functions in the following fashion:

The plastic pipes are clamped (clamps on the basic machine) and the pipe ends are planed plane and parallel.

If the pipes are plane and parallel and the offset is OK, welding can begin.

The cleaned heating element is inserted in the machine. The clamped pipes are moved under pressure towards the heating element and are heated over their whole scope under a defined equalization pressure (equalization). The duration of the equalization is called the equalization time.

The bead prescribed by the DVS develops during equalization.

After the prescribed bead height has been achieved, the control unit switches automatically to the warm-up time and the pressure is reduced.

During the warm-up time, the basic machine is in motion pressure and the pipe ends are heated through.

After the warm-up time has elapsed, the carriage moves up and the heating element must be removed as quickly as possible. The period between removal of the heating element and the point at which the pipes have moved to contact is called the repositioning time.

After the prescribed maximum repositioning time (in accordance with a welding standard e.g. DVS) an equal joining pressure is applied and the pipe ends are joined together (joining pressure build-up time).

The pipe then cools under the prescribed joining pressure (cooling time).

The pressure is reduced to 0 after the cooling time has elapsed.

The welded pipe can be released.

The welding procedure has been completed.

The heating element heats the pipes to welding temperature.

Finished welded joint with an exterior and interior bead.

The welding procedures are logged and saved and can be read-out via the USB interface.
4. Operating and display elements

4.1. Elements on the WI-CNC® 6.0

<table>
<thead>
<tr>
<th>No.</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cover for covering the main switch and the USB interfaces</td>
</tr>
<tr>
<td>2</td>
<td>Cover for covering the touch screen, also functions as glare shield</td>
</tr>
<tr>
<td>3</td>
<td>Main switch for switching the WI-CNC® 6.0 on and off</td>
</tr>
<tr>
<td>4</td>
<td>USB – interfaces, connection e.g. for the memory stick or scanner</td>
</tr>
<tr>
<td>5</td>
<td>Oil dipstick and oil filler pipe</td>
</tr>
<tr>
<td>6</td>
<td>GPS receiver (optional)</td>
</tr>
<tr>
<td>7</td>
<td>Protective frame for the WI-CNC® 6.0</td>
</tr>
<tr>
<td>8</td>
<td>Emergency-Stop switch for stopping the machine following danger</td>
</tr>
<tr>
<td>9</td>
<td>Touch screen for:</td>
</tr>
<tr>
<td></td>
<td>- Selecting dimensions and a range of welding functions</td>
</tr>
<tr>
<td></td>
<td>- Performing welding functions</td>
</tr>
<tr>
<td>10</td>
<td>Interface for the basic machine distance meter</td>
</tr>
<tr>
<td>11</td>
<td>Exterior temperature sensor (optional)</td>
</tr>
<tr>
<td>12</td>
<td>Socket for the heating element</td>
</tr>
<tr>
<td>13</td>
<td>Coupling sleeve for hydraulic hose for closing</td>
</tr>
<tr>
<td>14</td>
<td>Coupling mandrel for hydraulic hose for opening</td>
</tr>
<tr>
<td>15</td>
<td>Alarm horn</td>
</tr>
<tr>
<td>16</td>
<td>Socket for planer</td>
</tr>
<tr>
<td>17</td>
<td>Connection cable with plug (for 230V / 50 Hz / 16A)</td>
</tr>
</tbody>
</table>
### 4.2. Elements on the WI-CNC® 6.0 – model 16 A

<table>
<thead>
<tr>
<th>No.</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cover for covering the USB interfaces</td>
</tr>
<tr>
<td>2</td>
<td>Cover for covering the touch screen, also functions as glare shield</td>
</tr>
<tr>
<td>3</td>
<td>Main switch for switching the WI-CNC® 6.0 on and off</td>
</tr>
<tr>
<td>4</td>
<td>USB – interfaces, connection e.g. for the memory stick or scanner</td>
</tr>
<tr>
<td>5</td>
<td>Oil dipstick and oil filler pipe</td>
</tr>
<tr>
<td>6</td>
<td>GPS (optional)</td>
</tr>
<tr>
<td>7</td>
<td>Protective frame for the WI-CNC® 6.0</td>
</tr>
<tr>
<td>8</td>
<td>Emergency-Stop switch for stopping the machine following danger</td>
</tr>
<tr>
<td>9</td>
<td>Touch screen for:</td>
</tr>
<tr>
<td></td>
<td>- Selecting dimensions and a range of welding functions</td>
</tr>
<tr>
<td></td>
<td>- Performing welding functions</td>
</tr>
<tr>
<td>10</td>
<td>Interface for the basic machine distance meter</td>
</tr>
<tr>
<td>11</td>
<td>Exterior temperature sensor (optional)</td>
</tr>
<tr>
<td>12</td>
<td>Socket 230 V + 400 V for heating elements</td>
</tr>
<tr>
<td>13</td>
<td>Coupling sleeve for hydraulic hose for closing</td>
</tr>
<tr>
<td>14</td>
<td>Coupling mandrel for hydraulic hose for opening</td>
</tr>
<tr>
<td>15</td>
<td>Alarm horn</td>
</tr>
<tr>
<td>16</td>
<td>Sockets 230 V / 400 V for planer</td>
</tr>
<tr>
<td>17</td>
<td>Connection cable with plug CEE-16A</td>
</tr>
</tbody>
</table>
4.3. **Heating element with PLC function (option)**

4.3.1. **Digital heating element with PLC function for 4400 - 4900**

**On / off switch:**
As soon as the heating element has been connected and activated, the switch will illuminate red and the heating element heats to the set temperature.

**Temperature display:**

<table>
<thead>
<tr>
<th>2 2 0</th>
<th>Display of the current actual temperature</th>
</tr>
</thead>
</table>
| 2 2 0  | Display with flashing points behind the figures:  
Once the heating element has been connected to the WI-CNC 1.1 / 1.3, turning the adjustment screw will result in display of the flashing points. 
The heating element remains at the set temperature prescribed by the WI-CNC® 1.1 / 1.3.  
**Attention:** external connection of the heating element means that the set temperature is misaligned. |

**Control lamp green:**

<table>
<thead>
<tr>
<th>Off</th>
<th>The heating element is currently not heating up / it is cooling.</th>
</tr>
</thead>
<tbody>
<tr>
<td>On</td>
<td>The heating element is heating up, but the set temperature has not yet been reached.</td>
</tr>
<tr>
<td><strong>Flashing</strong></td>
<td>The temperature of the heating element is maintained. This will be achieved by a specific pulse-pause behaviour.</td>
</tr>
</tbody>
</table>
4.3.2. Analogue heating element with PLC function for 5100

Control lamp green:

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>The heating element is currently not heating up / it is cooling.</td>
</tr>
<tr>
<td>On</td>
<td>The heating element is currently heating up, but the set temperature has not yet been reached.</td>
</tr>
<tr>
<td>Flashing</td>
<td>The temperature of the heating element is maintained. This will be achieved by a specific pulse-pause behaviour.</td>
</tr>
</tbody>
</table>

Control lamp yellow:
The control lamp will illuminate as soon as the heating element is connected.

4.3.3. Heating element with PLC function for 5500 - 6113

Display: SET – temperature + flashing points between the figures.
The heating element heats up but the set temperature has not yet been reached. This display extinguishes only after a short time, this is followed by three dashes.

Display: Three dashes.
The heating element is heated but the temperature has not yet been reached.

Display: ACTUAL – temperature (without flashing points).
It first appears from > 170°C and continues to increase until the SET - temperature has been reached. The set temperature is then held constant via a particular pulse-pause ratio.
4.3.4. Setting the heating temperature

Connected with the WI-CNC® 6.0:

If the heating element is connected to the socket (Chapter: 4.1 / 4.2, no.11) and has been switched on, the temperature will be automatically heated to the pre-set set temperature upon selection of the welding material.

Connected with external socket:

If the heating element is connected with an external socket and has been switched on, you can set the set temperature using the adjustment screw.

Either: Digital heating element
The display first shows the set temperature (with flashing points) and then the actual temperature (without flashing points). If the green control lamp is flashing, the temperature has been reached.

Or: Analogue heating element
The heating element is heated up to the set temperature; this temperature has been reached when the green control lamp flashes.

4.4. Bar code – scanner (optional)

You can use the bar code scanner to provide yourself with authorization, for which you require an authorization ID (optional).

You can also read-in a bar code e.g. to name a construction section. You can obtain this bar code via the WIDOS-WICON programme (optional).

Connect the USB plug to scan a free interface under the left-hand cover.

Hold the scanner with the reading field over the bar code and press the actuation button. The scanning is confirmed by the control lamp.

A magnet is fitted to the underside of the bar code scanner bracket which enables you to position the scanner on the machine as required.
Examples of horizontal or vertical positioning of the scanner:

- Vertical positioning: the grip should always point upwards.
5. Commissioning and operation

This chapter provides instructions for and guidance in the professional commissioning and operation of the machine.

This comprises:
- Safe operation of the machine
- Exhaustion of possibilities
- Economical operation of the machine

5.1. Safety information

- The machine may only be operated by trained and authorized persons. A plastic welding examination in accordance with DVS and DVGW can be taken.
- Pressure can remain in the hydraulic system after mains outage. Let off pressure as required.
- Press the Emergency-Stop switch given danger situations for people and machine.
- Switch off the machine after ending welding work and during pauses.
- Make sure that no unauthorized persons have access to the machine.
- Protect the machine against water and damp.
- VDE 0100 prescribes that operation of the machine on construction sites is permitted only via a power distributor with an RCD safety switch.
- Make sure that all the hydraulic and electrical connections have been established.

5.2. Connecting the WI-CNC® 6.0 with the welding machine

Connect the hydraulic hoses of the basic machine to the couplings (Chapter: 413 and 14).

If you have a basic machine with a distance measuring system, connect the distance meter to the interface (10).

Connect the plug of the WI–CNC® 6.0 to a local socket (230V / 50 Hz /16 A) and the WI–CNC® 6.0 – 16 A to a local socket (400V / 50 Hz /16 A). On construction sites, connect it to the power distributor with an RCD safety switch.

Connect the heating element with PLC function (optional) to the socket (12), or connect a heating element without PLC-function in a socket (12) or an external socket.

Connect the planer to the socket (16).

The machine is now ready to operate.
### 5.3. Buttons and fields on the touch screen

#### 5.3.1. Buttons on the WI-CNC 6.0

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Checkmark]</td>
<td>Confirm</td>
</tr>
<tr>
<td>![X]</td>
<td>Cancel</td>
</tr>
<tr>
<td>![Backwards]</td>
<td>Page back</td>
</tr>
<tr>
<td>![Forwardwards]</td>
<td>Page fore</td>
</tr>
<tr>
<td>![Number 208]</td>
<td>Number of the active page <em>(can be changed via the keyboard)</em></td>
</tr>
<tr>
<td>![Cross]</td>
<td>Close page</td>
</tr>
<tr>
<td>![Left Arrow]</td>
<td>Back in menu</td>
</tr>
<tr>
<td>![Right Arrow]</td>
<td>Forwards in menu</td>
</tr>
<tr>
<td>![Pen]</td>
<td>Edit / rename</td>
</tr>
<tr>
<td>![OK]</td>
<td>Confirm message</td>
</tr>
<tr>
<td>![Delete]</td>
<td>Delete entry</td>
</tr>
<tr>
<td>![Information]</td>
<td>Information</td>
</tr>
<tr>
<td>![Save Protocol]</td>
<td>Save log (individual) on flash drive</td>
</tr>
<tr>
<td>![Save All Protocols]</td>
<td>Save logs (all) on flash drive</td>
</tr>
<tr>
<td>![Print Protocol]</td>
<td>Print out the log (only if a label printer is available)</td>
</tr>
<tr>
<td>![Logout]</td>
<td>Log out <em>(Return to “login“ screen)</em></td>
</tr>
<tr>
<td>![Open]</td>
<td>Open manually</td>
</tr>
<tr>
<td>![Close]</td>
<td>Close manually</td>
</tr>
<tr>
<td>![Pressure Test]</td>
<td>Build up pressure manually</td>
</tr>
<tr>
<td>![Release Pressure]</td>
<td>Release pressure manually</td>
</tr>
<tr>
<td>![Plane]</td>
<td>Turn planer</td>
</tr>
</tbody>
</table>
### 5.3.2. Button versions

These button versions are possible:

<table>
<thead>
<tr>
<th>PE</th>
<th>Field Grey</th>
<th>Field without function, only as information</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE</td>
<td>Button with contour</td>
<td>Button with function (press short time) <strong>not active</strong></td>
</tr>
<tr>
<td>PE</td>
<td>Button with contour <strong>Blue</strong></td>
<td>Button with function (press short time) <strong>active</strong></td>
</tr>
<tr>
<td>Plane</td>
<td>Button with contour and blue line</td>
<td>Button with function (hold depressed) <strong>not active</strong></td>
</tr>
<tr>
<td>Plane</td>
<td>Button with contour and blue line <strong>Blue</strong></td>
<td>Button with function (hold depressed) <strong>active</strong></td>
</tr>
</tbody>
</table>

### 5.3.3. Button versions for operators (authorization)

<table>
<thead>
<tr>
<th>OP</th>
<th>Button with contour</th>
<th>Button stored as <strong>operator</strong> inactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP</td>
<td>Button with contour <strong>Blue</strong></td>
<td>Button stored as <strong>operator</strong> active</td>
</tr>
<tr>
<td>AN</td>
<td>Button with contour and red line</td>
<td>Button stored as <strong>Master</strong> inactive</td>
</tr>
<tr>
<td>AN</td>
<td>Button with contour and red line</td>
<td>Button stored as <strong>Master</strong> active</td>
</tr>
</tbody>
</table>

### 5.3.4. Information fields

The information fields on the touch screen cannot be changed or selected.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>Procedure completed successfully</td>
</tr>
<tr>
<td>🔍</td>
<td>Status message (machine loads a procedure) / display of the supervisor operator</td>
</tr>
<tr>
<td>🔄</td>
<td>USB flash drive not connected (symbol faded out)</td>
</tr>
<tr>
<td>📦</td>
<td>Weld saved on the USB flash drive</td>
</tr>
</tbody>
</table>
### 5.3.5. Selection possibilities

<table>
<thead>
<tr>
<th>Symbol selected</th>
<th>Symbol not selected</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Checkmark]</td>
<td>![Box]</td>
<td>Multiple options can be selected</td>
</tr>
<tr>
<td>![Circle]</td>
<td>![Circle]</td>
<td>One option can be selected</td>
</tr>
</tbody>
</table>

### 5.3.6. Status messages of the parameter - overview

- **Parameter – overview (without warning symbol)**
  - The symbol is displayed if:
    - The temperature of the heating element lies outside the tolerance.

- **Yellow warning symbol**
  - The symbol is displayed if:
    - An error has developed in the welding process.
  - *Note: Only displayed during the welding process after completion of equalization.*

- **Red warning symbol:**
  - The symbol is displayed if:
    - An error has developed in the welding process.
    - *Note: Only displayed during the welding process after completion of equalization.*

### 5.3.7. Colour display of the “Main menu” button

- **Main menu - Marked green**
  - Welding has been completed without error.

- **Main menu - Marked red**
  - An error has developed during welding and it was aborted.
5.4. Basic information about operating the touch display

The screen is divided into two areas: Header and main screen.

5.4.1. Header

The header is always displayed, the contents of the main screen changes depending on the active operating mode or menu.
5.5. **Switching on the WI – CNC® 6.0**

Open the covers on the WI – CNC® 6.0 and switch on the main switch (Chapter: 4, no.: 3).

The display lightens as soon as the switch is actuated (the computer is initialized).

5.5.1. **Authorization**

The screen displays the machine software version and the serial number.

Press the “Operator” field to enter your authorization. A pop-up window appears to select the operator.

5.5.1.1. **Operator pop-up**

Select the desired operator and confirm it with the <✓> button; the screen will change to machine identification.

If “Master” is selected as an operator, the screen will display a keyboard with which to enter the password.
5.5.2. Machine identification and home position run

The connected machine is displayed. The display appears with the authorization as “Operator”. No settings are possible.

Confirm the base body with the < > - button

Machine identification has been completed.

The machine has been driven to the home position.

The screen changes to “Main menu” automatically.
5.6. **Main menu**

**General machine settings and information menus:**

<table>
<thead>
<tr>
<th>Protokolle</th>
<th><strong>View of the individual weldings</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In this menu you can view all the weldings which have been performed on the machine and save them on a USB flash drive.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information</th>
<th><strong>Information</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>You can view information about the machine via this menu.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sprache</th>
<th><strong>Language</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>You can select the language in this menu.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Datum, Uhrzeit, Einheiten</th>
<th><strong>Date, time, units</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>You can set the date, time and unit display in this menu.</td>
</tr>
</tbody>
</table>
5.7. Viewing logs

You can view the welding details for all weldings performed on the machine in the Welding logs menu.

The details on the left-hand side of the screen show:
- Information regarding the machine
- The welder
- The parameters set
- Whether an error was made during welding

The details on the right-hand side of the screen show:
- The target and actual values of the individual welding steps

Log display with weldings with traceability
5.7.1. Printing logs

After having connected a label printer (art. no. EG6210) to the WI-CNC 6.0, you can print the logs on a label.

Select this button to print the log currently displayed on a label.
5.7.2. Saving logs

This screen is displayed if a USB flash drive has been inserted. You can now save the logs on the USB flash drive.

Actuating this button saves (only) the displayed log on the USB flash drive.

Actuating this button and saving all logs on the USB flash drive will result in the display of the following screen:

Decide whether you want to save all the logs on the internal memory or whether the internal memory should be emptied.

After confirming your choice, you will return to the “Logs menu”.
- Deleting the logs will set the log counter to 0.
- Retaining the logs means that the log counter remains the same.

This message is only displayed following registration as a supervisor / Master.
5.7.3. Managing logs on the USB flash drive

Reading out the USB flash drive in the USB port of your computer (and if you select the USB flash drive), will lead to the following display:

USB flash drive selected

The logs displayed are displayed as PDF files in the following fashion and consist of the following designations:

- Project name: “WIDOS”
- Date of saving: 17.04.2019 14:14
- Display of the time: “10 h :15 min. :04 sec”
- Display of the date: “28.03.2019”
- Seam number “4”

5.7.3.1. Sorting logs via Windows (USB flash drive)

The files can (on the USB flash drive) be sorted via Windows to …:
- Project name
- Date of saving
### 5.7.4. Opening individual logs (PDF file)

Opening a PDF file (single log) will display:

<table>
<thead>
<tr>
<th>Job name:</th>
<th>00066642E5519A05205C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint number:</td>
<td>0</td>
</tr>
<tr>
<td>Total seam number:</td>
<td>272</td>
</tr>
<tr>
<td>Weld date:</td>
<td>2019-03-04</td>
</tr>
<tr>
<td>Time:</td>
<td>12:49:21</td>
</tr>
<tr>
<td>User:</td>
<td>AG</td>
</tr>
<tr>
<td>Last maintenance:</td>
<td>2019-02-</td>
</tr>
<tr>
<td>Next maintenance:</td>
<td>2020-02-14</td>
</tr>
<tr>
<td>Material:</td>
<td>SLM 3.06DVS</td>
</tr>
<tr>
<td>Pipe OD:</td>
<td>112 mm</td>
</tr>
<tr>
<td>Pipe wall thickness:</td>
<td>6.3 mm (BDR 17.6)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weather:</th>
<th>Sunny Dry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection:</td>
<td>Tent</td>
</tr>
<tr>
<td>Ambient temperature:</td>
<td>16 °C</td>
</tr>
</tbody>
</table>

| HE Set temperature: | 220 °C |
| HE Actual temperature: | 9 °C |

| Bead-up SWF: | 0.15 N/mm² |
| Bead-up Set: | 1.5 mm |
| Bead-up Actual: | 0.0 mm |

| Heating SWF: | 0.02 N/mm² |
| Heating set time: | 80 s |
| Heating actual time: | 9 s |

| Max. Change over time: | 6 s |
| Actual Change over time: | 0 s |

| Set build ramp time: | 6 s |
| Actual ramp time: | 0 s |

| Cooling-SWF: | 0.15 N/mm² |
| Drag pressure: | 3.0 bar |

| Cooling set pressure: | 7.9 bar |
| Cooling actual pressure: | 0.0 bar |
| Cooling set time: | 646 s |
| Cooling actual time: | 0 s |

| Joining distance: | 0.0 mm |
| Error: | Bead Up |
5.7.5. Opening logs in Excel

Open a new Excel document

1. Select the “Data” tab
2. Open the “Access external data” drop-down menu
3. Select “From text”

If you have selected your USB flash drive, the following display will appear (as in Chapter 5.7.3):

4. Select the Excel file (widos.csv).
Select the settings in the text conversion assistant as follows:

Text Import Wizard - Step 1 of 3

- Choose the file type that best describes your data:
  - Comma-separated values (CSV)
  - Fixed width
  - Delimited

Start import at row:

File origin: MS-DOS (PC-8)

Preserve data field names.

Data preview:

Text Import Wizard - Step 2 of 3

- Delimiters:
  - Tab
  - Comma
  - Space
  - Other:

Text qualifier:

Data preview:

Text Import Wizard - Step 3 of 3

- General:
- Text
- Date: DOY
- Do not import column (skip)

Data preview:
Select in which field of the existing file the protocol is to be inserted.

Then the following will be displayed in Excel:

You can view the values of all the logs saved on the USB flash drive.

Left to right display:
- Machine type
- Serial number
- Project name
- ...

i.e. the values of an individual log (see Chapter: 5.7.4) displayed from left to right.
5.7.5.1. Sorting logs in Excel

1. Select the marked field (then all fields will colour grey).

2. Working in the drop-down menu, select the column in which you wish to perform the sorting.

3. Working in the drop-down menu, select whether you wish to sort ascending or descending.

4. Confirm your selection with “OK”.

5. Select the marked field (“Sort”)
5.8. Viewing “i” information

You can check the software version, the serial number and the next due maintenance date of the machine here.

![](image)

5.9. Setting the language

The screen displays various languages; select your desired language. The selected language is marked blue.

Confirm your selection with the < > - button.
5.10. Setting the date, time and units

Set the date and time using the keyboard.

Set the units using the selection buttons.
5.11. Welding with the WI–CNC® 6.0 welding preparation and starting the welding procedure

<table>
<thead>
<tr>
<th>Input pipe parameters</th>
<th>Selecting the welding parameters (before welding)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welding process</td>
<td>Starting a welding process</td>
</tr>
</tbody>
</table>

Pressing "\(\text{•}\)" displays

### Pipe parameters

**Material**: PE  **Welding standard**: DVS  **SDR**: 11

**Job name**: QS

**Options**

- Standard
- Traceability
- Double pipe

Working via the check boxes, select the welding options.

- Standard – perform weldings by selecting the diameter / wall thickness in the “Standard process”.
- Traceability – perform weldings on the basis of scanned traceability bar codes (the pipes to be welded).
- Double pipe – perform weldings of double pipes (selecting the diameter / wall thickness)
5.11.1. Setting the welding parameters (entering the pipe dimensions with “Standard” / “Double pipe”)

You can make the following settings here:

- Material
- Welding standard
- Diameter
- Wall thickness
- Project name

→ The machine uses the data entered to calculate the SDR level.
Selecting the “Material” button takes you to the following screen:

Select the desired material – the button colours blue – and confirm with the < > - button.

Selecting the “Welding standard” field takes you to the following screen:

Select the desired welding standard – the button colours blue – and confirm with the < > - button.

Selecting the “Diameter” field takes you to the following screen:

Select the desired diameter – the button colours blue – and confirm with the < > - button.
Selecting the "Wall thickness" field takes you to the following screen:

Select the desired wall thickness – the button colours blue – and confirm with the <✓> - button.

Selecting the "project name" field takes you to the following screen:

Select the desired construction site name – the button colours blue –

Either:
Confirm with the <✓> - button.

Or:
Press the "✓"-button, change the name and confirm with the <✓> - button.
5.11.2. Setting the welding parameters (entering the pipe dimensions with traceability)

Selecting the “Traceability” parameter options means that the selection options are faded out and the parameter data is accepted using the bar codes (which you scan in to the following screens).

Scan the pipe code (for pipe 1) using the bar code scanner.

Should the code not be recognized, entry is also possible by selecting the field displayed.

Scan the pipe code (for pipe 2) using the bar code scanner.

Should the code not be recognized, entry is also possible via selection of the field displayed.

The welding parameters of the pipe previously scanned are already displayed.
The following message is displayed if the bar code is not recognized:

```
Pressing the < button returns you to the Main menu. Start the scanning of the bar code again.
```

After having scanned in (entered) both bar codes, this screen will appear:

```
Select the respective entry field of the pipes to enter the corresponding length and confirm with the < button. Welding starts.
```
5.11.3. Starting the welding procedure

Check the (previously set) pipe parameters and then start welding with the < > - button.

Select the weather conditions and weather protection and confirm the setting with the < > - button.
Set the seam number **either** manually by pressing the button and entering the corresponding value via the keyboard.

**Or** accept the current value (the machine counts further automatically after a weld).

Confirm the setting with the < > - button and the machine drives to the home position.

Clamp the pipes in the machine, clean them and confirm the procedure with the < > - button.

Check that the pipe ends have been clamped correctly and start the motion pressure measurement with the < > - button.
First, the clamping position will be checked, then the screen changes to motion pressure measurement.

After the motion pressure measurement, the following screen is displayed:

The machine measures the distance of the pipe ends, if this does not appear sufficient:
5.11.3.1. Possible error messages with the planer procedure:

**Warning**
Pipe ends clamped too short.

Continue process

Acknowledge this message with "Vorgang fortfahren". The screen returns to "Planing". You can continue the planing procedure.

**Warning**
The pipe is not correctly placed. The pipe placement in the machine must be longer.

Please press the button "Ok" to recheck the clamping position

OK

Align the pipes afresh and acknowledge this message with "OK". A new motion pressure measurement and distance measurement begins.

**Warning**
The space between pipes is not big enough for the planer.

Please press the button "Ok" to recheck the clamping position.

OK

Align the pipes afresh and acknowledge this message with "OK". A new motion pressure measurement and clearance measurement begins.
Insert the planer in the machine, clean it and start the planing procedure with the "<" - button. The button will turn blue and the screen changes to:

![Image](image.jpg)

Hold until planing is enough

Confirm with the < > - button

![Image](image2.jpg)

The minimum planing distance has been reached

Repeat planing or take out the planer and press the button ">"

![Image](image3.jpg)

Check whether the pipes have been planed sufficiently.

**Either:** Repeat the procedure until the pipe ends are plane parallel. **Or:** Remove the planer and confirm with the < > - button.
Should you wish to repeat the planing procedure, and actuate the "<"-button, the following screen will appear:

![Warning]

Do you want to repeat the planing process?
The machine will start to move automatically!

- Repeat planing
- Continue alignment

After confirming the planing procedure, the following will appear:

![Alignment screen]

Prepare machine for alignment check.
Press the button "Close" to check alignment.

- Close

Press "< [Drehpfeil] to perform offset control.

![Parameter overview]

The machine closes.
Either: Clamp the pipe again.

→ The planing must be repeated!

Or: Start pressure build-up with the button.

When starting pressure build-up, the following appears:
5.11.3.2 Possible error messages during pressure build-up

Acknowledge this message with "OK". Clamp the pipes afresh and perform a new planing procedure.

If the pressure build-up was successful, the actual value of the pressure becomes green (Pi).

Reduce the pressure and confirm with the button - button.
5.11.3.3. Possible error messages during equalization

The heating element temperature has not yet been reached. You can first start with equalization if the heating element has reached the required temperature.

Confirm with the < > - button.
The bead build-up starts. You can read off the target bead height (here 1.50 mm) and the actual bead height in per cent (here -53%).

The warm-up procedure starts. You can read off the actual and target values.

The repositioning process starts. Remove the heating element.

Either: Wait until the machine moves together automatically.  
Or: Close the machine manually.
5.11.3.4. Possible error messages during repositioning

If you fail to remove the heating element early enough, this error message will be displayed. Acknowledging this with “OK” will take you to the following screen:

The weld was unsuccessful and you can remove the pipe.

Insert the USB flash drive in the USB port if you wish to save the log on it. The following screen will be displayed:
After the repositioning time has finished, the following appears:

The ramp time starts. You can read off the actual and target time on the screen again.

After the ramp time has elapsed, the following is displayed:

The cooling procedure starts.

The machine informs you about the outside temperature and the actual and set time.
If no USB flash drive has been inserted in the USB port, the following is displayed:

Either: Insert the USB flash drive in the USB port to save the data.
Or: Return to the Main menu.

Welding successful.
Please remove the pipe.
Protocol stored in device.

Either: Insert the USB flash drive in the USB port to save the data.
Or: Return to the Main menu.

The welding procedure has been completed.
5.11.4. Overview of parameters

The overview of parameters can be viewed during every work step in the welding procedure after the offset control.

You can change only the units (pressure / force); otherwise you can just view the relevant data of the weld.

5.11.4.1. Overview of parameters standard / traceability

It consists of three pages:

1/3

Pressure overview
Pressure and force

Pressure
4.0 bar
Po + Ps: 18.8 bar
Po: 3.9 bar
Ps: 14.9 bar
Force

Heating element temperature
Welding tempera... 220° C
Current HIL temp. 220° C

2/3

Pressure curve

Bead-up Heat-soak Change over Ramp Cooling

3/3

Project overview
Project data

Project name: WIDOS
Joint number: 21
5.11.4.2. Overview of parameters double pipe

It consists of three pages:
5.12. Maintenance menu

Maintenance mode is now visible for the “Master”.

Here you can view the maintenance menu page 1.

Actuating the button leads to page 2 of the maintenance menu:

Actuating one of the fields takes you to the corresponding settings menu (these are explained in the subsequent chapters).
5.12.1. Automatic mode

Working in the Automatic menu, you can:

- Read off the pressure of the carriage
- Read-off the position of the carriage
- Set the speed of the carriage via the speed control
- Open < Open > or close < Close > the machine
- Read off the motion pressure
- Start a message of the motion pressure < Measuring >

The machine moves and the motion pressure is measured. Should it not be possible to move the machine, (e.g. disconnected distance measuring system) c. 160 bar will be built up during the measurement.

- Read off the connected base body
- Read off the length from the connected base body
- Read off the surface from the welding cylinder (of the connected base body)
5.12.2. Pressure sensor

Working in the Pressure sensor menu, you can:

- Read-off the actual pressure
- Set the set pressure
- Release the pressure (on the machine)
- Build up the pressure (on the machine)
- Read off the motion pressure
- Read off the pressure measurement of the pressure accumulator

5.12.3. Outside temperature

Working in the Outside temperature menu, you can:

- Read off the outside temperature
5.12.4. Manual mode

The WI–CNC® 6.0 must be disconnected from the basic machine when using this menu.
→ This precondition may only be bypassed if you are in possession of all the basic information and can guarantee and error-free operation.

Working in the Manual mode menu, you can:

- Read off the pressure from the base body and the oil container.
- Switch the motor and pump on or off.
- Set the frequency of the machine via the frequency controller.

Select a frequency between 30 and 50 Hz with which to perform “regular” movements or to use this menu.

The higher the frequency, the higher the:
- Speed of the machine.
- The pressure required to move the machine during closing.
→ That means that the target value in the proportional valve is higher, which increases the impact upon closing the machine.

Settings for the hydraulic block via the control elements:

- You can use the round check boxes to set the hydraulic valves manually.
  - Free circulation valve (Y4) → This selection effects the direct transport of the oil into the tank. *4
  - Open valve (Y1) → This selection triggers the oil flow and opens the machine under certain conditions. *1
  - Closing valve (Y2) → This selection triggers the flow of oil and closes the machine under certain conditions. *2
  - Store valve (Y3) *3 → this selection ensures that the oil (if present) flows from the oil container to the hydraulic block.

The motor/the pump and the pressure accumulator (as long as pressure is present) are to be considered as a source for the oil flow.
**1 Conditions for opening the machine:**

1. The source for the oil flow must be active.
2. Select the *Open valve* check box.
   → The target value of the proportional valve is set to 0 bar automatically.

***ATTENTION***

As soon as these conditions have been completed, the machine will move without prior warning, if it is connected.

**2 Conditions for closing the machine:**

1. The source for the oil flow must be active.
2. Select the *Close valve* check box.
3. The value set on the proportional valve must be higher than 0 bar.
   → If the machine is connected, it passes into a movement as soon as a setting value is entered (in the proportional valve field) which is greater than the load.

***ATTENTION***

Failure to follow these instructions exactly can mean that the machine (if connected and depending on the input present) can move.

**3 Conditions for filling the container:**

1. Set the checkmark on *Store valve*
2. Select the *Close valve* check box.
3. Set the target value of the proportional valve to 0 bar.
4. Switch on the motor/pump until the container is filled according to your wishes.
   → Make sure that the maximum value is c. 200 bar.

***ATTENTION***

Failure to follow these instructions exactly can mean that the machine (if connected and depending on the input present) can move.

**4 Conditions for emptying the container:**

1. Select the *Free circulation valve* check box.
2. Set the target value of the proportional valve to 0 bar.
3. Check the *Store valve*.

***ATTENTION***

Failure to follow these instructions exactly can mean that the machine (if connected and depending on the input present) can move.
5.12.5. Planer

Working in the Planer menu, you can:

- Switch the planer on and off.

5.12.6. Heating element

Working in the Heating element menu, you can:

- Set the set temperature of the heating element.
  
  Working via the right-hand entry field or the temperature controller, you can adjust the target temperature of the heating element.

- Read off the actual temperature of the heating element:

  The colour **WIDOS blue** (160 – 180 degrees) stands for:
  
  The heating element has reached the temperature displayed on the scale (the heating element is not yet so hot that a “high danger of burning” exists).

  The colour **WIDOS red** (180 – 240 degrees) stands for:
  
  The heating element has reached the temperature displayed on the scale (the heating element is so hot that light burning is possible upon contact).

  The colour **red** (240 – 270 degrees) stands for:
  
  The heating element has reached the temperature displayed on the scale (the heating element is so hot that light burning is possible upon contact).
5.12.7. Standards / directives

![Standards Menu]

Working in the Standards (or directives) menu, you can:

- Select the desired welding standards with which you wish to weld.

5.12.8. Setup

![Setup Menu]

Working in the Setup menu, you can:

- Switch the safety signal tone on or off.
  *Activating the safety signal tone triggers the horn (every 500 ms) if the carriage moves.*

- Switch the shortened cooling time on or off.
  *The possible shortening of the cooling time in accordance with DVS can be set here.*

- Switch the eco mode on or off.
  *Activating the eco mode switches the heating element to a standby temperature and ensures lower electricity consumption.*

- Set the standby temperature of the heating element via the entry field.
  *In eco mode, the heating element is cooled to this temperature.*
5.12.9. Operator

Working in the Operator menu, you can:

- Set or change the operator.
- Open the “Operator options” menu (< Options >)

5.12.9.1. User options

Pressing the < Options > button navigates you to this screen:

If you are registered as an **Operator**, you can:

- Re-name the operator (< Umbenennen >).
  *The operator name of the welder can be changed here.*
- Read-in the operator via the < Barcode > button.
  *Press the < Barcode > button and enter the bar code (the authorization card) manually (or read in the bar code via the authorization card and the bar code scanner).*
If you are registered as a **Master**, you can:

- Re-name the operator (<\[Unbenannt\]> ).
  *(The operator name of the welder can be changed here).*

- Set a new password (<\[Neues Kennwort\]> ).
  *(Select this button to issue the operator with a new password).*
  → *After actuating the button, a keyboard will be displayed on which to enter the new password.*

- Confirm the password (<\[Kennwort bestätigen\]> ).
  *(After entering the new password, it must be entered again to confirm it. → After actuating the button, a keyboard will be displayed on which to enter the new password.)*

- Read-in the operator via the <\[Barcode\]> button.
  *Press the <\[Barcode\]> button and enter the bar code (the authorization card) manually (or read in the bar code via the authorization card and the bar code scanner).*
When setting the new password via the < Neues Kennwort > and < Kennwort bestätigen > keys, the following messages can be issued:

- The two passwords are identical and the password is saved.
- The password is invalid, enter it again.
- The two passwords are not identical and entry must be repeated.
6. Servicing / maintenance / repair

The aim of this chapter:
- Preserving the set state of the machine and its operability.
- Increasing its utilization degree by avoiding unplanned downtime.
- Efficient planning of maintenance work and maintenance material.

6.1. General information about maintenance, inspection and repair.

All maintenance and repair work is to be performed when the machine has been switched off as a matter of course. Secure the machine against unintended activation.

Perform the prescribed maintenance and inspection work in the correct intervals. DVS recommends inspection work after 1 year.

The validity of the current maintenance is indicated in the “Information” menu (see Chapter: 5.8).

Arrange for the work to be performed by WIDOS GmbH or an authorized contractor.

- Inform the operating personnel before the start of maintenance and repair work.
- Check any loosened screw connections for their tight fit.
- Check the safety equipment for their function are the completion of maintenance work.

6.2. Information for inspection of the machine in accordance with DGUV/BGV-A3/EN60204

The following information is to be complied with in conjunction with inspections conducted in accordance with
- BGV-A3/DGUV Vorschrift 3 (“Electrical installations and equipment”)
- The EN60204-1 (“Safety of machinery - Electrical equipment of machines – Part 1: General requirements”).

The machine is fitted with a frequency inverter, which is fitted with voltage-restricting circuits.

Measurements of the insulation resistance should not be performed with >250V to prevent damage to the device.

The manufacturer of the frequency inverter has complied with the provisions of the relevant standards and has checked the insulation between the main circuit and the housing. This is also checked by corresponding inspections performed by WIDOS works-side before delivery and during repair / replacement.

6.3. Cleaning the device

Handle and dispose of the materials used to clean the machine in the correct fashion, especially:
- Cleaning with solvents.
- Lubricating with oil and grease.
6.4. Cleaning the control panel (touch screen)

Clean the control panel regularly when switched off, proceeding as follows:

- Switch off the machine.
- Spray cleaning fluid on the cleaning cloth. Do not spray directly onto the control panel.
- Clean the control panel. Wipe the display starting at the edge of the screen and work inwards.

Only clean the control panel when switched off. This ensures that no functions are actuated inadvertently when the buttons are pressed.

Do not use compressed air or a steam jet to clean the control panel.
Do not use any solvent or abrasive.

Clean with a damp cleaning cloth and cleaning agent. Only use washing-up liquid or foamy screen cleaner.

6.5. Checking the oil level

Only check the oil level if you receive the following display:

- Place the WI-CNC 6.0 on a level surface.
- Pull out the oil dipstick on the side of the WI-CNC 6.0.
- Clean the oil dipstick with a dry cloth and replace it in the tank; then remove it again.

- Read off the oil level; it must lie between the markings.
- If the oil level lies under the lower marking, you will need to re-fill the HLPD 32 hydraulic oil.
- Replace the oil dipstick after checking until the lock clicks.

6.6. Hydraulic oil used

Use HLPD 32 only.

Properties: Anti-corrosive, ageing proof, wear-reducing additives, highly durable, soiling carrying and only limitedly hydrophilic.

The hydraulic oil must be disposed of in a correct fashion.
6.7.  Storage

- Store the device in a dry room.

6.8.  Disposal

The machine and its wear parts are to be disposed of correctly at the end of their service life in accordance with the nationally-applicable waste-disposal laws.
7. Transport

The **WI-CNC® 6.0** is transported as follows:

Either: In a transport box with a WIDOS welding machine.

Or: In a separate transport box.

The compact nature of the transport boxes make them suitable for longer transport routes.

- Make sure that the device is not tilted strongly, so that oil does not run out.
- Protect the device against strong shocks and blows.
- Make sure that the lid of the transport box is sealed correctly.

The transport box has been constructed to ensure that it is light-weight.

- Exercise extreme caution when using lifting and handling machinery.
8. Electrical diagrams

8.1. Electrical diagrams of the WI-CNC® 6.0
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<th>Installation</th>
<th>Sheet-Nr.</th>
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<th>Installation Piece</th>
<th>Model</th>
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- **Strip Terminal**: \( \text{1 INST+LOC1-XD1} \)

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**Commission**: 000001  
**Revision**: C  
**Date of Creation**: 18.04.19  
**Date of Scanning**: 18.04.19  
**Project Status**: 18.04.19  
**Manufacturer**: WIDOS  
**Project Designation**: WIDOS  
**Drawing Number**: WCNC-6.0_EN_19  
**Sheet Number**: 18
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**Plug connection**

= INST+LOC1-XX09

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**Component location**

No. model access

**Lugs**

18-12

**Commissioning**

Number of sheets
8.2. Electrical diagrams of WI-CNC® 6.0 – model 16 A

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#### Strip Terminal

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<td>XG05-PE</td>
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**Note:**
- Installation location: EN-connection
- Circuit board: CAN/230N
- Main fuse
- Line filter heating element
- Main fuse
- Line filter heating element
- Line filter heating element
- OSE-heating element
- OSE-planer
- 24V-switch supply unit
- Frequency inverter relay planer
- Frequency inverter hydraulic-pump
- Frequency inverter hydraulic-pump
- Frequency inverter hydraulic-pump
- Frequency inverter hydraulic-pump
- Frequency inverter hydraulic-pump
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#### Figure 8-1: Plug connection

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<td>659 C</td>
<td></td>
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</table>

**Note:**

- Always ensure proper connections are made.

---

**Warning:**

- Do not exceed the rated current of the system.

---

**Commissioning:**

- Follow the manufacturer's guidelines for initial setup and testing.

---

**Revision:**

- Oct 04, 2019

---

**Information:**

- Vendor: WIDOS
- Model: WI-CNC® 6.0
- Version: 6.0

---

**Contact:**

- For further assistance, contact the manufacturer directly.
9. Spare parts list

9.1. Hydraulic control unit WI CNC® 6.0

This QR code takes you to our website and our spare parts lists. Select “Hydraulic control unit WI-CNC® 6.0”.

9.2. Hydraulic control unit WI CNC® 6.0 – model 16 A

This QR code takes you to our website and our spare parts lists. Select “Hydraulic control unit WI-CNC® 6.0 – model 16 A”.
10. Declaration of conformity

The sole responsibility for issuing the declaration of conformity pertaining to compliance with the basic requirements and the production of the technical documents is carried by:

**Manufacturer / installation company:** WIDOS Wilhelm Dommer Söhne GmbH

**Address:**

WIDOS GmbH
Einsteinstr. 5
D-71254 Ditzingen

The subject of this declaration is the following device:

**Product designation:** WIDOS hydraulic control unit WI–CNC® 6.0

**Type designation**

WI–CNC® 6.0 / WI–CNC® 6.0 model 16 A

**Machine number**

**Year of construction**

We hereby declare that this device conforms with the basic requirements established in the following harmonization regulations.

**As defined by the EC Directive, EC-MD 2006/42/EC**

Specification of the applicable harmonized standards applied or the specifications for which conformity is declared:

<table>
<thead>
<tr>
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<tr>
<td>DIN EN ISO 12100</td>
<td>Safety of machinery, basic terms, general principles for design</td>
</tr>
<tr>
<td>DIN EN 60204.1</td>
<td>Electrical equipment of machines</td>
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<td>DIN EN 60950</td>
<td>Safety of IT facilities</td>
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<tr>
<td>DIN EN 4413</td>
<td>Electromagnetic compatibility</td>
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Authorized to compile the technical documents

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**Address:**

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**Signs in the name of the company:**

**Forename, name:** Martin Dommer

**Function:** Technical manager

Heimerdingen, 22.05.2019

Place / date legally valid signature

This declaration certifies conformity with the specified harmonization specifications, but does not provide any additional assurance of properties.