Working Instructions
Translation

Heating Element Butt Welding Machine

WIDOS MINIPLAST 2

Keep for further use!
Product Identification

Model: Heating element butt welding machine
Type: WIDOS MINIPLAST 2
Serial number / year: see type plate

Customer entries

Inventory-No.:  
Place of working:  

Order of spare parts and sales service:

Address of manufacturer

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

Phone: +49 7152 9939 0
Telefax: +49 7152 9939 40
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.

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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 MINIPLAST 2 has been designed for heating element butt welding of pipes and fittings out of PE, PP and PVDF with a diameter range of Ø = 20 - 110 mm.
The machine is kept small so that it can easily be used in the pipe system.
For moulded narrow bends and fittings, special small basic clamping devices are available.

All use going beyond is not purpose-oriented.
The manufacturer is not responsible for damages caused by misuse.
The risk is held only by the user.

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

1.2. Overview

<table>
<thead>
<tr>
<th>No.</th>
<th>Denomination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Basic machine</td>
</tr>
<tr>
<td>2</td>
<td>Table support</td>
</tr>
<tr>
<td>3</td>
<td>Heating element</td>
</tr>
<tr>
<td>4</td>
<td>Electric planer (optional)</td>
</tr>
<tr>
<td>5</td>
<td>Clamping devices for fittings (optional)</td>
</tr>
<tr>
<td>6</td>
<td>Manual planer</td>
</tr>
</tbody>
</table>
1.3. 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.

1.4. 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.

1.5. Designation of the product

The product is designated by a sign at the basic frame. It contains the type of the machine, the serial number and the year of construction.

1.5.1 Technical data

1.5.1.1 WIDOS MINIPLAST 2 General Data

<table>
<thead>
<tr>
<th>Material:</th>
<th>PP, PE-HD, PVDF, PE 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe diameter range:</td>
<td>Outside $\varnothing = 20 - 110$ mm</td>
</tr>
<tr>
<td>Sheet steel carrying case (lxwxh):</td>
<td>450 x 300 x 365 mm</td>
</tr>
<tr>
<td>Weight (without packing):</td>
<td>30 kg</td>
</tr>
<tr>
<td>Fuse:</td>
<td>10 A</td>
</tr>
<tr>
<td>Wire cross section:</td>
<td>1.5 mm²</td>
</tr>
<tr>
<td>Emissions:</td>
<td>- When using the named pipe materials and when welding below 260 °C no toxicant damp arises.</td>
</tr>
<tr>
<td>Ambient conditions in the welding area:</td>
<td>- Keep the workshop clean (no dust at the welding area)</td>
</tr>
<tr>
<td></td>
<td>- If secured by an appropriate measurement that allowed conditions for welding are indicated, it is possible to work in any outside temperature condition as far as the welder is not constrained in its manual skill.</td>
</tr>
<tr>
<td></td>
<td>- Avoid humidity, if necessary use a welding tent</td>
</tr>
<tr>
<td></td>
<td>- Avoid strong sun rays influence</td>
</tr>
<tr>
<td></td>
<td>- Protect from wind, shut the pipe ends</td>
</tr>
</tbody>
</table>

1.5.1.2 Heating element
### Description of Product

#### Chapter 1

<table>
<thead>
<tr>
<th>Power:</th>
<th>500 Watt</th>
<th>500 Watt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage:</td>
<td>230 V (± 10 %)</td>
<td>110 V (± 10 %)</td>
</tr>
<tr>
<td>Current:</td>
<td>2,2 A (± 10 %)</td>
<td>4,5 A (± 10 %)</td>
</tr>
<tr>
<td>Frequency:</td>
<td>50 Hz</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Outside Ø:</td>
<td>145 mm</td>
<td></td>
</tr>
<tr>
<td>Surface:</td>
<td>nonstick-coated</td>
<td></td>
</tr>
</tbody>
</table>
| Attached elements: | - electronic temperature control  
                          - control lamp  
                          - connecting cable with plug |
| Weight:         | appr. 2 kg |

#### 1.5.1.3 Manual planer

| Weight:         | appr. 2 kg |

#### 1.5.1.4 Basic machine and table support

<table>
<thead>
<tr>
<th>Material frame and clamping devices:</th>
<th>Aluminium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. force</td>
<td>600 N</td>
</tr>
</tbody>
</table>

#### 1.5.1.5 Electric planer (optional)

<table>
<thead>
<tr>
<th>Power:</th>
<th>550 W</th>
<th>550 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage:</td>
<td>230 V (± 10 %)</td>
<td>110 V (± 10 %)</td>
</tr>
<tr>
<td>Current:</td>
<td>2,4 A</td>
<td>5,0 A</td>
</tr>
<tr>
<td>Frequency:</td>
<td>50 Hz</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Weight:</td>
<td>on request</td>
<td></td>
</tr>
</tbody>
</table>

See spare parts list for order numbers and single parts, when ordering, please state the machine number!

#### 1.6. Equipment and accessories:

Following tools and accessories are part of the delivery:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Allan key, angled size 3 for screwing in / out the reduction inserts</td>
</tr>
<tr>
<td>1</td>
<td>Allan key, angled size 4, for mounting the fitting clamping devices (option)</td>
</tr>
<tr>
<td>1</td>
<td>Annular fork wrench size 10</td>
</tr>
<tr>
<td>1</td>
<td>Torx screwdriver T10, for changing the knives</td>
</tr>
<tr>
<td>8 each</td>
<td>Pan-head screws M 4x16 / 20 DIN 912, for mounting the reduction inserts</td>
</tr>
<tr>
<td>8</td>
<td>Flat-head screws M 6x12 DIN 7991, for mounting the fitting clamping devices (option)</td>
</tr>
</tbody>
</table>
2. Safety rules

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

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

2.1. Explanation of the symbols and indications

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

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

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

- This symbol means a possible dangerous situation due to hot surfaces.
  - The disrespect of these indications may conduct to heavy burns, respectively to self-ignition or even fire.

- 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 worker**

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

- to follow the basic safety and accident protection rules.
- to have read and understood the safety chapter and the warnings in this manual and to confirm by their signature that they have well understood them.

2.4. **Measures of organization**

- The required personal protective equipment is to be provided by the operator.
- All existing safety devices are to be checked regularly.

2.5. **Informal safety measures**

- The working instructions are to be permanently stored at the site of operation of the machine. They must be accessible for the operating personnel at any time and without great effort.
- In addition to the working instructions, the generally accepted as well as local regulations with respect to accident prevention and environmental protection are to followed.
- All safety and danger advices at the machine are to be maintained in a readable condition.
- In case of changes in the ownership or allocation as a loan to other persons, it is indispensable to include the working instructions and to point out their importance.

2.6. **Training of personnel**

- Only trained and instructed personnel is allowed to work at the machine.
- The responsibilities of the personnel must be clearly defined with regard to transport, assembly and disassembly, start-up, adjustment and rigging, operation, maintenance and inspection, repair and dismantlement.
- Personnel to be trained is only allowed to work at the machine under supervision of a skilled person.

2.7. **Structural modifications of the machine**

- Without permission of the manufacturer it is not allowed to modify, attach or reconstruct parts of the machine.
- Parts of the machine that are not in proper condition have to be replaced immediately.
- Only use original WIDOS spare and wear parts.
2.8. Cleaning of the machine

The used material and components must be handled and disposed of properly, especially
- while cleaning with solvents
- while lubricating with oil and grease.

2.9. Danger while handling the machine

The machine WIDOS MINIPLAST 2 is constructed according to the latest technical standards and the acknowledged technical safety rules.

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

The machine may only be used
- according to the purpose-oriented usage
- in safety technical impeccable status

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

2.10. Dangers caused by electric energy

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 immediately.
- The heating element has to be protected from rain and dropping water, if need be use a welding tent.
- According to VDE 0100, the use on construction sites is only allowed with a power distributor with a FI-safety switch.

2.11. Specific dangers

2.11.1 Danger of being burnt by heating element, reception box and welding area

You can burn yourself, inflammable materials can be ignited!

The heating element is heated up to more than 200° C!

- Do not leave the heating element unsupervised.
- Take enough safety distance to inflammable materials.
- Do wear safety gloves.
- Always put the heating element back into the reception box before and after each use.
- Transport the heating element at the handle only, do not touch the surfaces of the heating element.
2.11.2 Danger of stumbling over electric wires

- Make sure that no person has to step over the wires.

2.11.3 Danger of cutting / squeezing / catching clothes

- Always put the planer back into the reception box before and after each use.
- Transport the planer at the handle only and do not touch surfaces.
- Do not put hands between clamped pipe ends.
- Make sure that your clothes are not caught by the planer.

2.12. Warranty and liability

Fundamentally our "General Sales and Delivery Conditions" are valid.
They are at the owner’s disposal latest when signing the contract.
Guarantee and liability demands referring to personal injuries or damages on objects are excluded if they are caused by one or several of the following reasons:

- Not using the machine according to the prescriptions.
- Inexpert transport, mounting, starting, operating and maintenance of the machine.
- Running the machine with defective or not orderly mounted safety appliances.
- Ignoring the information given in this manual.
- Structural modifications on the machine without permission.
- Unsatisfactory checking of parts of the machine which are worn out.
- Repairs performed in an inexpert way.
- In case of catastrophes and force majeure.
3. Functional description

Basically the international and national guidelines are to be followed.

The plastic pipes are clamped by means of the clamping devices.

Then the front sides of the pipes are cut plane and parallel by means of the planer and the misalignment of the pipes is checked.

The heating element is inserted and the pipes are pressed against the heating element under defined adjusting pressure. This process is called "adjusting".

After the prescribed bead height being reached, pressure is reduced, the heating time begins. The function of this time is to heat up the pipe ends.

After expiration of the heating time, the slides are opened, the heating element is removed quickly and the pipes are driven together again. The time gap from the removal of the heating element to joining the pipes is called change over time.

The pipes are joined under prescribed welding pressure and then cool down under pressure (cooling time).

The welded joint can be unclamped, the welding process is finished.
4. Operating and indicating elements

4.1. Elements on the basic machine / table support

<table>
<thead>
<tr>
<th>No.</th>
<th>Denomination</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Tightening nut</td>
<td>- Tightening of the pipes</td>
</tr>
<tr>
<td>8</td>
<td>Upper guide bar</td>
<td>- Guidance for the slide</td>
</tr>
<tr>
<td>9</td>
<td>Scale</td>
<td>- Display of the applied welding force</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- max. 60 kp displayed</td>
</tr>
<tr>
<td>10</td>
<td>Handwheel</td>
<td>- Opening / closing the slides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- application of the adjusting force</td>
</tr>
<tr>
<td>11</td>
<td>Star grip for basic machine</td>
<td>- Attaching the basic machine at the table support.</td>
</tr>
<tr>
<td>12</td>
<td>Spindle</td>
<td>- Advance of the slide</td>
</tr>
<tr>
<td>13</td>
<td>Lower guide bar</td>
<td>- Guidance for the slide</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Fixing the planer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Rest for the heating element</td>
</tr>
<tr>
<td>14</td>
<td>Hexagon screw (4x)</td>
<td>- Setting the angle</td>
</tr>
</tbody>
</table>
### 4.2. Elements at heating element and planer

<table>
<thead>
<tr>
<th>No.</th>
<th>Denomination</th>
<th>Function</th>
</tr>
</thead>
</table>
| 17  | On-/off – switch for heating element | - “ON”, the control lamp illuminates  
                              - “OFF”, the control lamp extinguishes |
| 18  | Knob with slot                | - Setting the temperature for the heating element                      |
| 19  | Control lamp green            | - There are three different states:  
                              - Out: signalizes that the heating element is not heated up at the  
                                moment or that it cools down  
                              - Blinking: the temperature of the heating element is maintained by  
                                a pulse-position ratio.  
                              - On: signalizes that the heating element is heated up at the  
                                moment and has not yet reached the desired temperature. |
| 20  | Ratchet                       | - Turning around the planer                                             |
| 21  | Star grip screw and tin disc  | - Attaching the planer at the guidance bar by turning the screw and  
                              tin disc                                                           |
4.3. Elements at the electric planer (optional)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Button on/off</td>
<td>The button must be pushed for planing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The planer has to be switched off after each planing process.</td>
</tr>
<tr>
<td>23</td>
<td>Locking knob</td>
<td>Keeps the on/off button in position: ON</td>
</tr>
<tr>
<td>24</td>
<td>Star grip screw and tin disc</td>
<td>- Attaching the planer at the guidance bar by turning the screw and tin disc</td>
</tr>
</tbody>
</table>

Be especially cautious, there is the danger of cuttings!
Only activate the planer if it has been placed into the machine and secured by locking tin disc and star grip screw.
5. Starting and operating

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

This includes

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

5.1. Starting

The machine may only be operated by initiated and authorized persons.

For the qualification, a plastic welding exam can be taken according to DVS and DVGW.

- In situations of danger for persons and the machine, the mains plug has to be unplugged immediately.

- After completion of the welding work and during breaks the machine has to be switched off. Further take care that no unauthorized person has access.

- Protect the machine from wetness and humidity.

- According to VDE 0100, the use on construction sites is only allowed with a power distributor with a FI-security protective switch.

- Connect the heating element and the electric planer (optional) to the mains supply (230 V / 50 Hz).

Lay electric cables carefully (danger of stumbling)!

- Take into account the surrounding conditions:
  - The welding may not be performed under direct sun rays influence, use a welding umbrella if necessary.

- If the surrounding temperature is under 5° C, measures have to be taken:
  - Use a welding tent or preheat the pipe ends if necessary.

- In addition, take measures against rain, wind and dust.
5.1.1 Exchanging the reduction Inserts

- Unscrew the mounted reduction inserts by means of the provided Allan key.
- Screw the reduction inserts with the corresponding diameter into the clamping devices.
- When welding bends, the angle can be set on the basic clamping devices (on each side between -15° to +15°).
- If necessary (e.g. for T-pieces) a special basic clamping device can be provided by means of which very short sections can be clamped.

5.2. Welding process

The respectively valid welding prescriptions (ISO / CEN / DVS ...) are to be basically followed.

- Do wear safety gloves as protection against burning.
- A stop-watch must be available for recording the actual times for heating up and cooling.
- A welding table must be available from which the parameters for the pipe dimensions to be welded prescribed by the welding prescriptions may be taken.
- The heating element surfaces must be clean and especially non greasy. Therefore they need to be cleaned shortly before each welding or in case of dirtiness by means of a fibre-free paper and a cleaning agent (e.g. PE cleaner or WIDOS pipe cleaning tissues). The anti-adhesive coating of the heating element must remain undamaged in the working area.
Switch on heating element and set the required welding temperature (standard value 210° C) on the adjustment screw on the handle.

As soon as the control light blinks, the nominal temperature has been reached and is maintained at a constant level by a pulse-position ratio.

Screw in reduction inserts according to the outer diameter of the pipes to be welded, if necessary set the angle.

Attach the basic frame at the table support, if required fix the table support at the support surface or insert machine without table support directly into the pipe system.

Put the workpieces into the clamping device, fasten clamping nuts tightly and align the workpieces with respect to one another.

Insert the manual planer between the ends of the workpieces, lock it by turning the star grip on the guide bar and plane with low force.

Insert the electric planer (optional) between the ends of the workpieces, lock it by turning the star grip at the guide rod. Switch on planer at the on/off button and keep it switched on with the locking knob. Plane the pipes with low force. For releasing the locking knob, push shortly the button.

Planing should be carried out until a revolving cutting has been formed on both sides.

Open slide again, remove the planer and put it into the reception box. Remove the produced cuttings without contacting the worked surfaces.

Close slide again.

Check pipe mismatch and gap on the joining pipe ends.

According to DVS 2207, the mismatch on the pipe outer side must not exceed 0.1 x pipe wall thickness, the admissible gap must not exceed 0.5 mm.

The mismatch compensation is carried out by further tightening or releasing the clamping nuts. In case mismatch compensation was carried out, planing must be repeated afterwards.

The adjustment force for the pipe dimension to be welded can be gathered from the welding table. Add the movement force.

Open slide again somewhat.

Gather heating time, maximum change over time, cooling time and bead height for the pipe dimension to be welded from the table.
• Move the heating element which has been cleaned and brought to desired temperature between the pipes with the handle facing downwards (hang into guide bar).

• Close the slide smoothly with the determined adjustment force. The applied force can be read at the force scale on the handwheel.
  When the prescribed revolving bead height is reached, reduce the force (heating force = approx. 10% of the adjustment force).

• The heating time starts now. Press the stop-watch and compare the actual time with the nominal time taken from the table.

• After expiration of the heating time, open the slide, remove the heating element as quickly as possible, put it into the heat protection box and close the slide smoothly. The maximum time frame for this process is predetermined by the value for the change over time taken from the table.

• Press the stop-watch when the welding pressure is built up.
  If necessary, readjust the force during cooling (the force for cooling is the same as the adjustment pressure).

• After expiration of the cooling time, release the force, remove the welded part and open the slide.
6. Welding tables

You can access our website and select our welding tables via the qr code shown here. Select “2500-ASM 160-315” and the corresponding material (PE / PP /PVDF).
# Report for heated plate welding of tubular components

<table>
<thead>
<tr>
<th>Weld no.</th>
<th>Date</th>
<th>Pipe size Ø d x s mm</th>
<th>Heating element temperature 1) °C min / max</th>
<th>Movement pressure bar</th>
<th>Joining pressure bar</th>
<th>adjusted values 2) heat-up bar</th>
<th>bead-up bar</th>
<th>heat-up time 3) s</th>
<th>time to complete joining pressure s</th>
<th>Change-over time 3) s</th>
<th>Cooling time under joining pressure 3) s</th>
<th>Ambient temperature °C</th>
<th>Code no. protect measures</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
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1) From normal internal, frequency according to 4.2.
2) The settings are the sum of the movement pressure and the indications of the manufacturer of the welding machine concerning equalization and joining pressure.
3) The measured values must be entered.

Date and signature of the welder inspector:

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**Starting and Operating**

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Chapter 5
7. Maintenance and repair

7.1. General

Replace damaged parts immediately, be particularly carefull with electrical parts. Dirt and wetness are very good current conductors.

Prescribed maintenance and inspection works should be performed in time. The DVS gives the advice of inspection works after 1 year. For machines with a specially high usage percentage the testing cycle should be shortened. The works should be performed at the WIDOS GmbH company or by an authorized partner.

7.2. Clamping elements

- For a long service life clean and grease regularly the threaded spindles and the joint parts which are used for clamping the pipes.

7.3. Planer

- Do not lay the planer on its blades!
- Check the blades of the planer for sharpness, turn them if necessary (grinded on both sides, max. thickness of the shavings: 0.2 mm!).

7.4. Storage

- Cover the guide bars and the spindle with a thin oil film.
- Store dry.

7.5. Disposal

At the end of the life time, the machine has to be disposed of properly, non-polluting and in accordance with the national laws of waste disposal.
8. Transport

- Protect the machine from heavy chocs.
- Handle the machine carefully.
- Make sure that the case is closed correctly.

The machine is transported in a sheet steel carrying case.

- The table support, protective box and the basic machine are placed into the bottom of the sheet steel carrying case, the protective box with its handle must be standing in the center of the case.
- Place the planer in a way that it is located below the rails for the reducer inserts.
- Place the heating element with cable and the temperature control in a way that is still located below the rail for the reducer inserts.

Please place corrugated cardboard, plastic film or similar between each element in order to protect the machine parts.

- Place both cases with the reducer inserts onto the rails.
9. Electric diagram
10. Spare parts list

You can access our website and select our spare parts lists via the qr code shown here. Select “Miniplast 2”
11. Declaration of conformity

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

Manufacturer / Installation company: WIDOS Wilhelm Dommer Söhne GmbH
Address: WIDOS GmbH
Einsteinstr. 5
D-71254 Ditzingen

Subject of the present declaration is the following device:

<table>
<thead>
<tr>
<th>Product name:</th>
<th>Heating element butt welding machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model name:</td>
<td>WIDOS 2500 / OD 160</td>
</tr>
<tr>
<td>Machine number:</td>
<td></td>
</tr>
<tr>
<td>Year of construction:</td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

<table>
<thead>
<tr>
<th>Standard</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIN EN ISO 12100</td>
<td>Safety of machines, basic concepts, general layout guidelines</td>
</tr>
<tr>
<td>DIN EN 60204.1</td>
<td>Electric equipment of industrial machines</td>
</tr>
<tr>
<td>DIN EN 60555,</td>
<td>Electro-magnetic resistance</td>
</tr>
<tr>
<td>DIN EN 50082,</td>
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<tr>
<td>DIN EN 55014</td>
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</tr>
<tr>
<td>DIN EN 1005-2</td>
<td>Safety of machinery- Human physical performance</td>
</tr>
<tr>
<td>DIN EN 614-1</td>
<td>Safety of machinery- Ergonomic design principles</td>
</tr>
</tbody>
</table>

Entitled to compile the technical documentation:

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

Signed on behalf of the company:

Name, first name: Dommer, Martin
Function: Technical director

Heimerdingen, 06.05.2019

Place / Date Legally binding signature

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