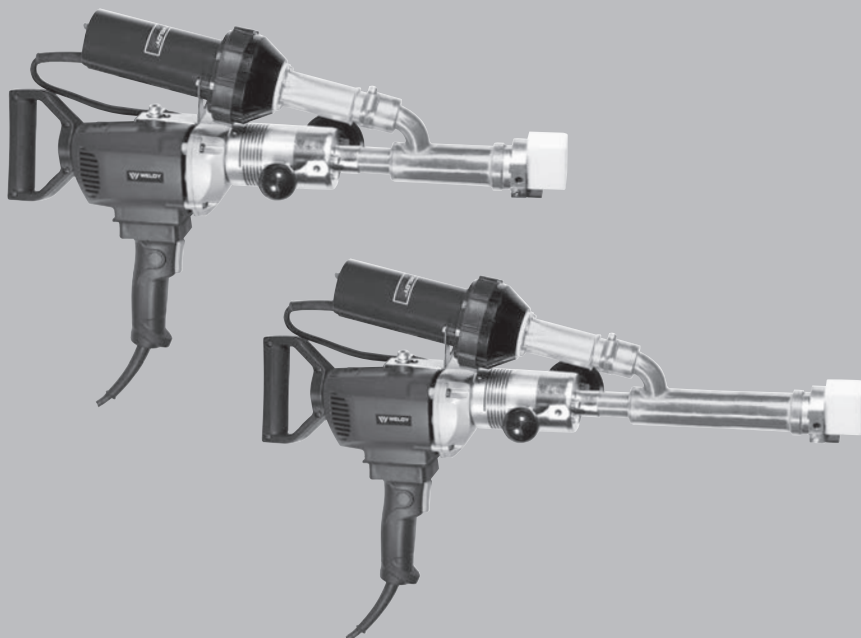


# booster EX2/EX3

Extrusion Welder

## Operating Manual





Please read operating instructions carefully before use and keep for further reference.

## WELDY booster EX2 / EX3 Extrusion Welder

### Application

Welding PE and PP thermoplastics for applications in:

- container engineering
- pipeline construction
- plastic fabrication
- landfill sites and abandoned polluted areas



### Warning



#### DANGER!

Danger when opening up the tool, as live components and connections are exposed. Therefore, before opening, unplug the tool to ensure disconnection from the mains. Electronically conductive material (e.g. PE-EL) must not be welded.



**Danger of fire and explosion!** Incorrect use of the hand extruder (e.g. overheating of the material) can present a fire and explosion hazard, especially near combustible materials and explosive gases.



**Danger – can cause burns!** Do not touch bare metal parts and emerging material while hot. Allow the device to cool. Do not direct stream of hot air or emerging material towards people or animals.



### Caution



The **voltage rating** stated on the tool must correspond to the mains voltage. If power failure occurs, the hot air blower switch and drive must be switched off (release locking device).



For personal protection on building sites we **strongly recommend** the tool be connected to a **RCCB (Residual Current Circuit Breaker)**.



The tool must be operated **under supervision**. Heat can ignite flammable materials which are not in view. The machine may only be used by **qualified specialists** or under their supervision. Children are not authorized to use this machine.



Protect tool from **damp** and **wet**.



Repairs should only be carried out by Weldy partners. Restricted to use with original Weldy accessories and spare parts.

## Disposal



Power tools, accessories and packaging should be recycled. **For EU countries only:** do not dispose of power tools in your household rubbish! According to the European Directive 2002/96 on waste electrical and electric equipment and its implementation in national law, power tools which can no longer be used must be collected separately and recycled.

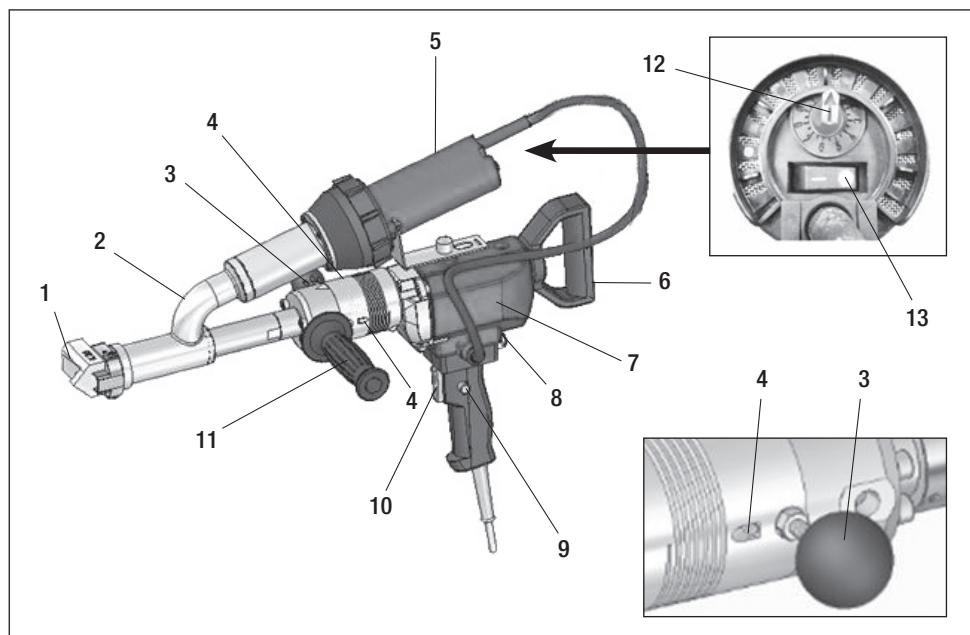
## Technical Data

		booster EX2	booster EX3
<b>Voltage</b>	<b>V~</b>	230	230
Mains voltage is not reversible			
<b>Power consumption</b>	<b>W</b>	3000	3000
<b>Frequency</b>	<b>Hz</b>	50 / 60	50 / 60
<b>Air temperature</b>	<b>°C</b>	max. 360	max. 360
<b>Plasticizer temperature</b>	<b>°C</b>	max. 310	max. 310
<b>Size L × W × H</b>	<b>mm</b>	500 × 250 × 410	630 × 250 × 410
without welding shoe			
<b>Weight</b>	<b>kg</b>	6.4	6.9
incl. 3 m cable			
<b>Protection class II</b>		□	□

<b>Welding output</b>		<b>booster EX2</b>		<b>booster EX3</b>	
<b>Welding rod mm</b>		Ø 3 / Ø 4		Ø 3 / Ø 4	
(in accordance with DVS 2211)					
<b>Ø 3; Welding output [kg/h]</b>		PE 1.5	PP 1.5	PE 2.4	PP 2.4
(Average values at 50 Hz)					
<b>Ø 4; Welding output [kg/h]</b>		PE 2.2	PP 2.2	PE 3.4	PP 3.4
(Average values at 50 Hz)					

Technical data and specifications are subjected to change without prior notice.

## Description of tool



- |                        |                                       |                                   |
|------------------------|---------------------------------------|-----------------------------------|
| 1. Welding shoe        | 6. Tail handle                        | 11. Handle                        |
| 2. Hot air tube group  | 7. Drive unit                         | 12. Air temperature potentiometer |
| 3. Tool rest           | 8. Overload protection fuse           | 13. Hot air blower switch         |
| 4. Welding rod opening | 9. Locking device drive on/off switch |                                   |
| 5. Hot air blower      | 10. Tool drive on/off switch          |                                   |

### Instruction for tool switch:

- For starting the tool press and hold **tool drive on/off switch (10)**
- For stopping the tool release **tool drive on/off switch (10)**
- While holding **tool drive on/off switch (10)** press **locking device drive on/off switch (9)** for automatic mode.

## Preparation for welding

Before turn on power supply, all switches have to be turned off and make sure potentiometer is at «0».



The hand extruder must not be operated in inflammable environments or where explosion hazards exist. Ensure stable position during operation. The connection cable and the welding rod must remain unimpeded and must not hinder the user or others during operation.



Ensure power supply voltage is single phase 220V~230V, with minimum power load capacity of 3000W.

## Preparation for welding

- The **handle (11)** can alternatively be mounted left, right or bottom of the tool.
- Ensure the minimum cross-section when using extension cables. The extension cable must be approved for the site of use (e.g. in the open air) and marked correspondingly. When using a power unit for power supply, it's nominal power rating is: 2 x nominal power rating of the hand extruder.

Length [m]	Minimum cross-section (at ~230V) [mm²]
up to 19	2.5
20 – 50	4.0

## Switching on

- Connect the WELDY hand extruder to the mains supply.
- Switch on the tool at the **hot air blower switch (13)**.
- Adjust the hot air temperature by the **air temperature potentiometer (12)** to position 7.



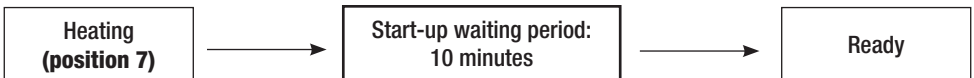
In order to reach the operating temperature the tool needs to heat up for at least 10 minutes.

## Starting protection

The tool is equipped with current **overload protection fuse (8)**. In case of too high current consumption, **the drive will switch off automatically** if the material in the screw is insufficiently plasticized. Wait for 1 minute; press the **overload protection fuse (8)**, the tool will re-start again.

## Starting the welding process

- Fit the required WELDY **welding shoe (1)** according to the paragraph "change of the welding shoe".
- Welding can begin once the operating temperature has been attained.  
Operate the **tool drive on/off switch (10)** for this purpose, operate the tool only when feed welding rod of 3 or 4 mm diameter into the **welding rod opening (4)** and allow a small amount plasticized material to escape.
- Adjust the heat of the tool until it reaches the ideal temperature to start the work.



### DANGER!

Never feed welding rod into both welding rod openings at the same time.  
Keep the welding rod feed clean and dry.

## Starting the welding process

- Carry out test welding and analyse.
- For interrupting material extrusion use the **tool drive on/off switch (10)**.
- Direct the **welding shoe (5)** to the welding zone.
- Pre-warm the welding zone with back and forth movements.
- Position the tool on the prepared welding zone and operate the **tool drive on/off switch (10)**.
- Carry out test welding and analysis.
- Adjust the hot air temperature using the **air temperature potentiometer (12)**.
- In case of a prolonged welding process, **locking device drive on/off switch (9)** can be held in the active state with the locking tool.
- Make sure there is enough clean welding rod on your unwinding unit.
- The welding rod is pulled in through the **welding rod opening (4)** automatically after starting. The welding rod pull-in must not be impeded.

## Switching off

- Release the **locking device drive on/off switch (9)** by briefly pressing the **tool drive on/off switch (10)** and then letting go. Remove welding material from the welding shoe in order to avoid damage on the welding shoe when starting the next time.
- The tool must only be laid down on the **tool rest (3)**.



Front metal of tool and welding material is of high temperature while tool is working, do not touch them to avoid burning.  
The hot air jet must not be directed towards persons and objects.



Use a fireproof base.

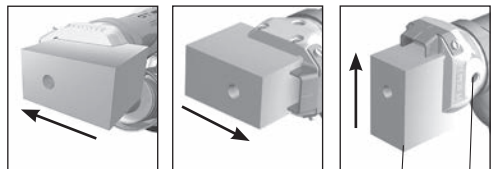
- Adjust the **air temperature potentiometer (12)** to «0», let the tool to be cool down.
- Switch off the **hot air blower switch (13)**.

## Checking the temperature of the extruded material and the pre-heating temperature

The temperatures of the extruded material and the hot air jet are to be checked at regular intervals when carrying out welding work over an extended period: Fast display electronic temperature measuring tools with the appropriate temperature probes have to be used. The highest temperature in the hot air jet between the nozzle outlet plane and a depth of 5 mm is to be determined. The measurement probe must be inserted in the welding shoe in the middle of the extruded material to measure its temperature.

## Welding direction

- The **welding shoe (5)** can be turned infinitely to the desired welding direction by loosening the **clamp screws (18)**.
- The **clamp screws (18)** must be well tightened again.



The welding shoe must only be changed when the tool has attained its operating temperature. Work with temperature resistant gloves only.

## Welding direction

Recommended potentiometer steps on hot air blower:

Type	Material/Diameter		Recommended step blower
booster EX2	PE (Ø 3 / Ø 4)	PP (Ø 3 / Ø 4)	7
booster EX3	PE (Ø 3 / Ø 4)	PP (Ø 3 / Ø 4)	7

**Noted:** the potentiometer steps depend on the environment temperature and material used.

## Changing the welding shoe

- The welding shoe must only be changed when the tool has attained its operating temperature.



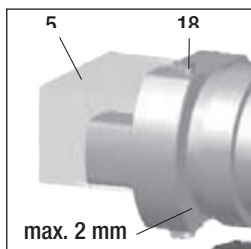
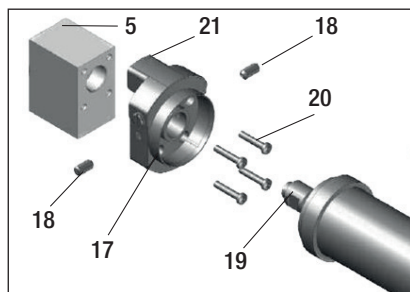
Danger of getting burned!



Work with temperature resistant gloves only.



Switch off the hot tool and disconnect it from the mains supply.



- 5 Welding shoe
- 17 Welding shoe holder
- 18 Clamp screws
- 19 Extruder nozzle
- 20 Screws for welding shoe
- 21 Pre-heating nozzle

### Disassembly:

- Turn off the tool while warm and disconnect from the power supply.
- Remove the **welding shoe holder (17)** by unfastening the **clamp screws (18)** from the **extruder nozzle (19)**.
- Every time the welding shoe is changed, clean the **extruder nozzle (19)** of welding residue and make sure that it is screwed in tightly.
- Remove **welding shoe (5)** from the **welding shoe holder (17)** by unfastening the fastening **screws for welding shoe (20)**.

### Assembly:

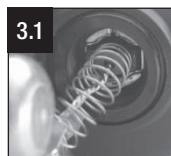
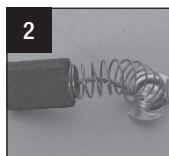
- Clean the **extruder nozzle (19)** with the brush.
- Fasten a **welding shoe (5)** appropriate to the welding seam onto the **welding shoe holder (17)** with fastening **screws for welding shoe (20)**. The **welding shoe (5)** and **welding shoe holder (17)** must be tightened properly with the **screws for welding shoe (20)**.
- Attach **welding shoe unit (17) + (5)** to the **extruder nozzle (19)** tightly by **clamp screws (18)**.

## Replacement of carbon brushes (drill machine)



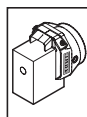
Switch off the hot tool and disconnect it from the mains supply.

1. Unscrew the carbon brush cap.
2. Take out the carbon brush.
3. Put on the new carbon brush and screw cap on.

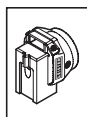


## Accessories

- Only WELDY accessories must be used.
- WELDY offers the right welding shoes for different common types of seam:



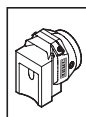
Blank



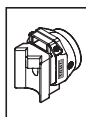
V Seam



Fillet  
weld



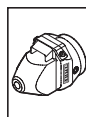
Overlap  
seam



Corner  
seam  
outside



Corner  
seam  
short



Corner  
seam  
long

## Maintenance

- In case of soiling clean the air inlet on the hot air blower with a brush.
- Clean the **extruder nozzle (19)** each time the welding shoe is replaced and remove any welding deposits.
- Check power supply cord and plug for electrical and mechanical damage.
- Regularly clean the air hose.

## Service and Repairs

- Ensure the carbon brushes of the drive and hot air blower checked by your service center after 100 hours of operation. The drive and the hot air blower switch off automatically once the minimum carbon length has been reached.
- Repairs should only be carried out by Weldy-partners. Restricted to use with original Weldy accessories and spare parts.

## Warranty

- For this tool, the guarantee or warranty rights granted by the Weldy-partners shall apply. In case of guarantee or warranty claims any manufacturing or workmanship defects will either be repaired or replaced by the Weldy-partners at its discretion. Warranty or guarantee rights have to be verified by an invoice or a delivery document. Heating elements shall be excluded from warranty or guarantee.
- Additional guarantee or warranty claims shall be excluded, subject to mandatory provisions of law.
- Warranty or guarantee shall not apply to defects caused by normal wear and tear, overload or improper handling.
- Warranty or guarantee claims will be rejected for tools that have been altered or changed by the purchaser.