

# LEISTER WELDMAX Mini-Hand Extruder



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

## Application

- Welding of thermoplastic materials made from:  
PE-HD PP-H, PP-B, PP-R PPS.
- Do not weld (PE-EL) electronically conductive material.  
(Reason: electric shock.)
- Welding seams in containers, appliances and pipe construction are carried out in accordance with DVS 2207 part 4.
- Welding of geomembrane liners for disposal sites and rubbish tips are carried out in accordance with DVS 2225 part 4.





## WARNING

### DANGER!



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



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



Do not touch the element housing, air nozzle and discharging plastized material when they are hot as they can cause **burns**. Let the tool cool down. Do not point the hot air flow and the discharging plastized material in the direction of people or animals.



## CAUTION



The **voltage rating** stated on the tool must correspond to the mains voltage.



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 **with supervision**. Heat can reach combustible materials, which are out of sight.



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

## APPROVAL MARK



This tool is **CCA** certified (CENELEC Certification Agreement).

## TECHNICAL DATA

Electrical Safety:  double insulated

Voltage	V~	120	200	230	Line/mains voltage cannot be switched over
Power consumption	W	1800	2200	2200	
Frequency	Hz	50/60			
Air Temperature	°C	max. 400			
Air flow	l/min	300			
Plast. Temperature	°C	max. 270			
Welding output	kg/h	0.7			
Welding rod	mm	ø 4 ± 0.2 (in accordance with DVS 2211)			
Size L × W × H	mm	443 × 94 × 255, handle ø 57			
Weight	kg	3.8 (without cable to mains)			

### Operating condition

- As required, fit the relevant **welding shoe (1)** according to instructions for change of welding shoe.
- Connect the tool to the mains.
- Switch on the tool at **main switch (13)**.  
The Software version will appear on the **digital display ACTUAL value air temperature (20)**.
- Adjust the desired values for air and extrudate temperature.
  - **Potentiometer air temperature (22)**, **digital display SET value air temperature (21)**.
  - **Potentiometer extrudate temperature (19)**, **digital display SET value extrudate temperature (18)**.
  - Set the rod feed to position 2.
- **Warning**
  - Choose appropriate temperature to avoid over-heating of the welding rod.
  - Over-heating of the extrudate inside the tool can cause a fire!
- The rod feed will not start (tool protection) until the set temperature of the whole extrudate material has been reached.
- Until the rod feed is released, the digital display will flash showing the **SET value air temperature (21)**, **SET value extrudate temperature (18)**, **ACTUAL value air temperature (20)** and **ACTUAL value extrudate temperature (17)**.
- After reaching the SET temperature, **digital display ACTUAL value extrudate temperature (17)** and after flashing has stopped, the welding procedure can be started.
  - The pre-heating time needs to be extended depending on the materials and environmental conditions after the rod feed has been released.
  - Note: The material in the **welding shoe (1)** must be plastized.
- Remove the protruding extrudate in the **welding shoe (1)** with a pair of pliers by pulling slightly.

### Welding procedure

- By pressing the **rod feed switch (14)** the rod feed for the welding rod is switched on (self-locking).
  - Renewed pressing of the **rod feed switch (14)**, will switch off the rod feed.
- Start up the tool using the **rod feed switch (14)**, and let a little plastized material feed through.
- Adjust the desired rod feed speed by the **potentiometer welding rod feed speed (23)** (depending on the seam geometry).
- Switch off the extrudate feed by using the **rod feed switch (14)**.
- Point the **pre-heating nozzle (5)** at the welding area.
- Pre-heat the welding area by using a swinging motion.
- Position the tool onto the prepared welding seam and activate the **rod feed switch (14)**.
- Do a test weld.
- Adjust the setting as required.
- **CAUTION:**

If the **digital display SET value air temperature (21)** is set higher than the **digital display SET value extrudate temperature (18)** and the tool has been running for some time without the rod feed, the **digital display ACTUAL value extrudate temperature (17)** will have risen even though no adjustment on the **SET value air temperature (21)** has been made. This operating condition should be avoided as the extrudate will decompose thermally. By activating the rod feed via the **rod feed switch (14)** and by adding the welding rod, the extrudate temperature will adjust to its SET value again.

- Let the tool cool down after use.

### Change of welding shoe

#### CAUTION! Danger of getting burned.

- Do not change the welding shoe when the tool is cold.
- Switch off the hot tool and disconnect from the mains.
- Remove the **welding shoe holder (3)** from the **heater tube (8)**, by loosening the **set screws for welding shoe holder (4)** (use gloves).
- Clean the **nozzle for extrudate (7)** of welding deposits at every change of welding shoe (see maintenance).
- Attach an appropriate **welding shoe holder (3)**.
- The **welding shoe holder (3)** can be attached in four 90° offset positions.
- The **welding shoe (1)** can be taken off the **welding shoe holder (3)** by loosening the set screws for the **welding shoe (2)** (eg. for reworking).
- Re-connect the tool to the mains supply and operate.

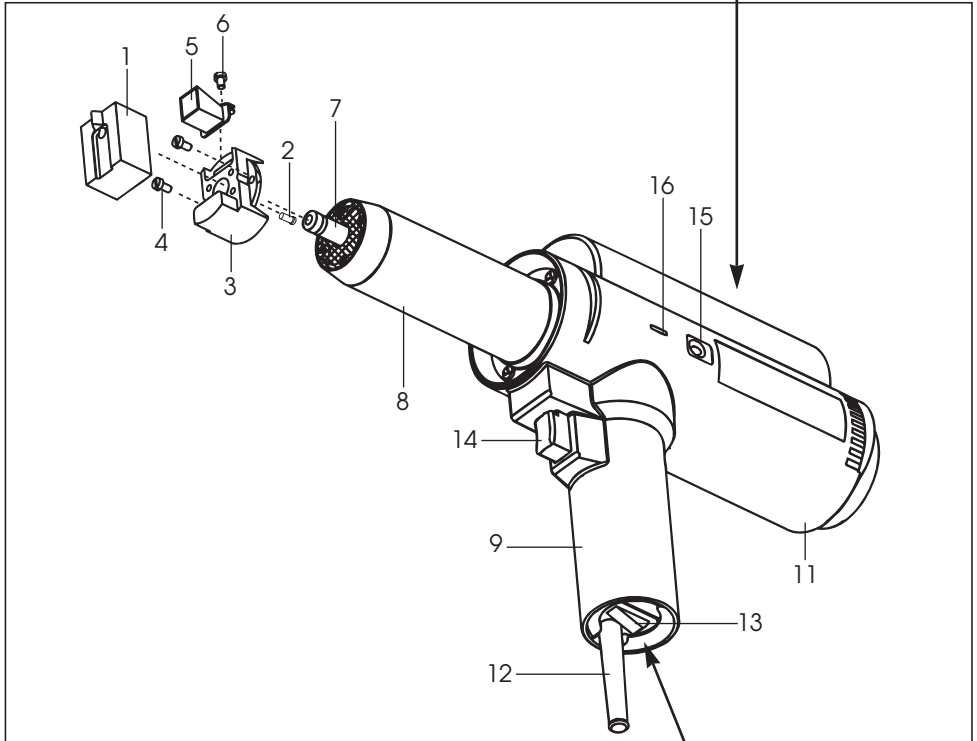
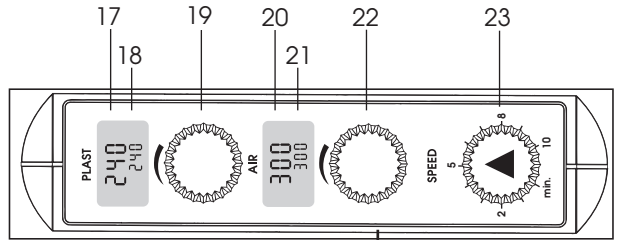
### Change of welding rod

- Switch on the tool by the **rod feed switch (14)**.
- Guide the new welding rod into the **welding rod feed (15)**.
- Let the tool run until a pure strand appears from the **nozzle for extrudate (7)**.

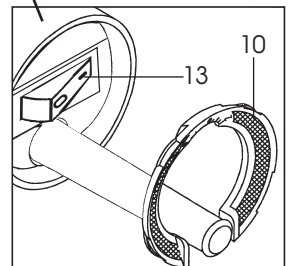
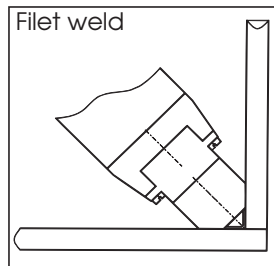
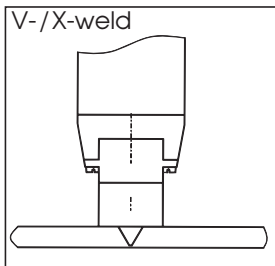
## Description of tool

- |                                      |  |
|--------------------------------------|--|
| 1. Welding shoe                      | 16. Discharge aperture                                 |
| 2. Set screw for welding shoe        | 17. Digital display ACTUAL value extrudate temperature |
| 3. Welding shoe holder               | 18. Digital display SET value extrudate temperature    |
| 4. Set screw for welding shoe holder | 19. Potentiometer extrudate temperature                |
| 5. Pre-heating nozzle                | 20. Digital display ACTUAL value air temperature       |
| 6. Set screw for pre-heating nozzle  | 21. Digital display SET value air temperature          |
| 7. Nozzle for extrudate              | 22. Potentiometer air temperature                      |
| 8. Heater tube                       | 23. Potentiometer welding rod feed speed               |
| 9. Handle                            |  |
| 10. Air filter                       |  |
| 11. Housing                          |  |
| 12. Cable to mains                   |  |
| 13. Main switch                      |  |
| 14. Rod feed switch                  |  |
| 15. Welding rod feed                 |  |

Control panel with digital display



Welding positions



**Operating faults and preventative measures**

• **Welding rod obstruction**

- Should the welding rod outside the tool get obstructed, the rod feed will skid to prevent tool damage.
- Safeguard the welding rod feed, check welding rod tolerance.
- Start up the tool using the **rod feed switch (14)**.
- Push-feed the welding rod only by hand into the **welding rod feed (15)**.
- Welding rod residue will escape via the **discharge aperture (16)**.
- **CAUTION** do not use any tools or other objects to remove welding rod residue.

• In case the welding rod cannot be fed through, the welding rod can be removed backwards out of the tool.

- Switch off the rod feed by the **rod feed switch (14)**.
- Set the **potentiometer air temperature (22)** and **potentiometer extrudate temperature (19)** to the set value OFF position.
- After approx. 2 seconds activate the **rod feed switch (14)**, the machine will start in reverse (fixed speed).
- The welding rod can be removed by pulling on the protruding welding rod.
- Switch off the rod feed by pressing the **rod feed switch (14)**.
- Set the **potentiometer air temperature (22)** and **potentiometer extrudate temperature (19)** to adjust SET value.
- Feed new welding rod and press **rod feed switch (14)**.  
Caution: cut off the used welding rod.
- Feed in the new rod by using a low rod feed speed.
- As soon as the plastized material starts to protrude from the **welding shoe (1)**, the tool will be operational again.

• **Fault indication on the digital display**

- Should a fault occur during the operation of the tool , this will be indicated on the display.
- Send the tool to the nearest Service Centre, indicating the fault code.

**ERR** will appear on the **Digital display ACTUAL value extrudate temperature (17)** and **Digital display ACTUAL value air temperature (20)**

The following messages will appear on the **Digital display SET value air temperature (21)**

LO	No fault in the automatic air control.
L1	Interruption of the temperature probe or air temperature too high
L2	Faulty air heater or the air temperature probe has a short circuit
L3	Element overheated, photoresistor has responded
L6	Electronics over-heated.

The following messages will appear on the **digital display SET value extrudate temperature (18)**

PO	No fault in the automatic extrudate unit
P1	Interruption of temperature probe or extrudate heater over-heated
P2	Faulty extrudate heater or the temperature probe of the extrudate heater has a short circuit

## ACCESSORIES

- Only LEISTER accessories should be used

## MAINTENANCE

- The tool's **air filter (10)** should be cleaned with a soft brush or be replaced.
- The nozzle for **extrudate (7)** should be cleaned of welding deposits before every change of welding shoe.
- Check the mains cable and plug for breaks and mechanical damage.

## SERVICE AND REPAIRS

- At minimal length of the carbon brushes the motor switches off automatically. The tool should be checked by your Service Centre. The carbon brushes in the motor will last approx. 1000 hours running time.
- The carbon brushes of the winding motor should be checked after approx. 1000 running time by your Service Centre.
- Repairs should only be carried out by authorized **LEISTER Service Centres**. They guarantee a specialised and reliable **Repair Service within 24 hours** using original spare parts in accordance with the circuit diagram and spare parts list.

## GUARANTEE AND LIABILITY

- Guarantee and liability are in accordance with the guarantee certificate as well as with the currently valid general business and sales conditions.
- LEISTER Process Technologies rejects any guarantee claims for tools which are not in their original condition. The tools must never be altered or changed.

**Technical data and specifications are subject to change without prior notice.**

**Your authorized Service Centre is:**

**Service Record LEISTER WELDMAX**

This document should be kept up to date during repair or servicing by the authorized LEISTER Service Centre. This document should be in the possession of the owner of the equipment.

**Technical data**

**Order No.** .....

**Serial No.** .....

**Rated voltage** ..... **V**

**Rated capacity** ..... **W**

**Sale** ..... **date**

**Service**

1. Date ..... Service centre ..... Signature .....

2. Date ..... Service centre ..... Signature .....

3. Date ..... Service centre ..... Signature .....

4. Date ..... Service centre ..... Signature .....

5. Date ..... Service centre ..... Signature .....

6. Date ..... Service centre ..... Signature .....

**Repair**

1. Date ..... Service centre ..... Signature .....

2. Date ..... Service centre ..... Signature .....

3. Date ..... Service centre ..... Signature .....