



ALLIED
POWER TOOLS

GEOSTAR G5 LQS / G5 G7 LQS / G7



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Operating instructions (translation of original operating instructions)

We congratulate you on the purchase of a GEOSTAR wedge welder.

You have selected a first-class wedge welder comprised of high-quality materials. This device was developed and produced in accordance with the latest welding technologies. Every GEOSTAR is subjected to strict quality monitoring before it leaves the factory in Switzerland.



Read the operating manual carefully before commissioning and keep it on hand for later consultation.

GEOSTAR G5 LQS/G5 GEOSTAR G7 LQS/G7 Wedge welder



More information about GEOSTAR and myLeister can be found at www.leister.com

1. Use

1.1 Intended use

The GEOSTAR G5/G7 with and without LQS is designed for overlap welding of thermoplastic films and sealing sheets. Only use original Leister spare parts and accessories; otherwise, any warranty and/or guarantee claims will be invalidated.

Welding geometry

- The maximum overlap width of the lower and upper membranes is 150 mm.
- Welding seam widths 50 mm.
- Welding seam with/without test channel (depending on version).

GEOSTAR G5 LQS/G5	Material	Material thickness reference value
Copper	PE-HD, PE-LD, PP, TPO, FPO	0.8 – 3.0 mm
Steel	PVC-P	0.8 – 3.0 mm

GEOSTAR G7 LQS/G7	Material	Material thickness reference value
Copper	PE-HD, PE-LD, PP, TPO, FPO	1.0 – 3.0 mm
Steel	PVC-P	1.0 – 3.0 mm

Additional materials upon request



For welding materials made of **PVC**, a device model designed for that purpose with a **steel wedge** must be used.

1.2 Non-intended use

Any other use or any use beyond the type of use described is deemed to be a non-intended use.

2. Important safety instructions



Warning



Danger to life

There is a danger to life from electric shock due to electrical voltage. The hot wedge welding machine must therefore only be connected to sockets and extension cables with a protective earth conductor. Protect the hot wedge welding machine from moisture and wet conditions. Before switching on, check the power cord, the plug, and the extension cable for electrical and mechanical damage. The hot wedge welding machine may only be opened by instructed, qualified personnel.



Danger of fire and explosion

The hot wedge welding machine can become an ignition source for fire and explosion. It must therefore not be used near explosive gases or flammable materials. To avoid burning of the material to be welded, please read the material safety data sheet from the material manufacturer. The hot wedge welding machine must only be used in the open or in a well-ventilated area.



Risk of burning

Do not touch the hot wedge when hot. The device should always first be allowed to cool down.



Do not touch moving parts

There is a risk of inadvertently becoming caught and being pulled in. Do not wear loose articles of clothing such as scarves or shawls. Tie up long hair or protect it by wearing headgear.



Caution



The local **supply voltage** must match the line voltage specified on the device. If the **line voltage** fails, switch off the main switch and place the welding machine in the park position.



If the device is being used on construction sites, a fault current circuit breaker **must be used to protect site personnel**.



The device **may only be operated under supervision** as waste heat can reach flammable materials.

The device should only be operated by **trained specialists** or under their supervision. Children are not permitted to operate the device.



When welding, be aware of hazards in the surrounding area, e.g., risk of tripping, risk of slipping, strong sunlight, unattended equipment, etc.

3. Technical data

Device model		GEOSTAR G5 LQS GEOSTAR G5	GEOSTAR G7 LQS GEOSTAR G7
* Voltage	V~	220 – 240	220 – 240
Power	W	2800	2800
Frequency	Hz	50 / 60	50 / 60
Temperature, stepless	°C °F	80 – 460 176 – 788	80 – 460 176 – 788
Drive slow, stepless	m/min ft./min	0.8 – 6 2.6 – 19.6	0.8 – 7 2.6 – 22.9
Drive fast, stepless	m/min ft./min	1.5 – 12 4.9 – 39.3	1.5 – 12 4.9 – 39.3
Welding pressure max.	N/lbs	1500 / 337	1500 / 337
Emission level	L _{pA} (dB)	60	60
Dimensions (L × W × H)	mm	482 × 278 × 269	482 × 278 × 269
Weight (without power cord)	kg/lbs	16.4 / 36.2	17.7 / 39
Mark of conformity		CE	CE
Protection class I		⊕	⊕
Device		G5	G7
Welding wedge length	mm	90	130
Width of welding wedge	mm	50	50
Weld seam width	mm	2 × 15	

We reserve the right to make technical changes. Additional versions upon request

*Connection voltage cannot be switched

4. Transport



Comply with applicable national regulations regarding the carrying or lifting of loads.



Do not use handles on the device or carrying handles on the transport box for transport with the crane.



The **welding wedge (5)** must be cooled down for transport.



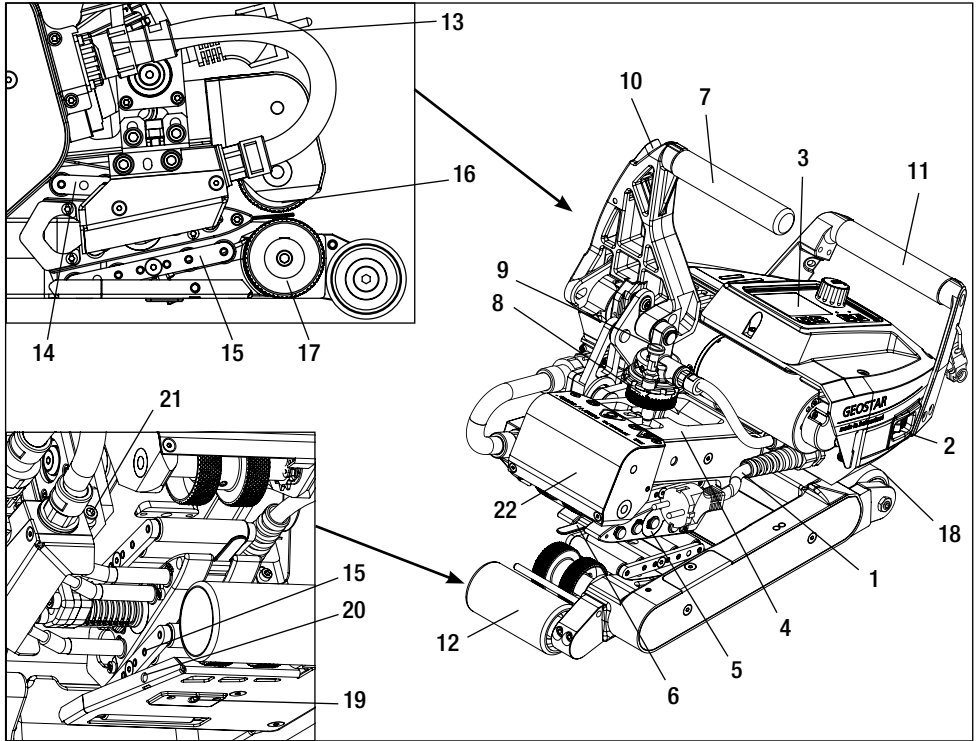
Suitable transport equipment must be used to transport the machine.



Do not store any flammable materials in the transport box

5. Device description

5.1 Overview of device parts



- | | |
|----------------------------------|---|
| 1. Power supply cord | 12. Track roller, rear |
| 2. Main switch | 13. Welding wedge plug |
| 3. Operating unit | 14. Contacting system, upper |
| 4. Clamping arm | 15. Contacting system, lower |
| 5. Welding wedge | 16. Upper drive/pressure roller |
| 6. Towing bar | 17. Lower drive/pressure roller |
| 7. Clamping lever | 18. Track roller, front |
| 8. Welding force adjustment ring | 19. Setting screw, contacting system, lower |
| 9. Welding force safety bolt | 20. Locking screw, contacting system, lower |
| 10. Clamping lever lock | 21. Welding wedge locking screw |
| 11. Handle | 22. Swivel head |

Main switch (2)



For switching the GEOSTAR wedge welder on/off

Operating unit (3)



«e-Drive»

The «e-Drive» is used as the navigator. It has two functions:

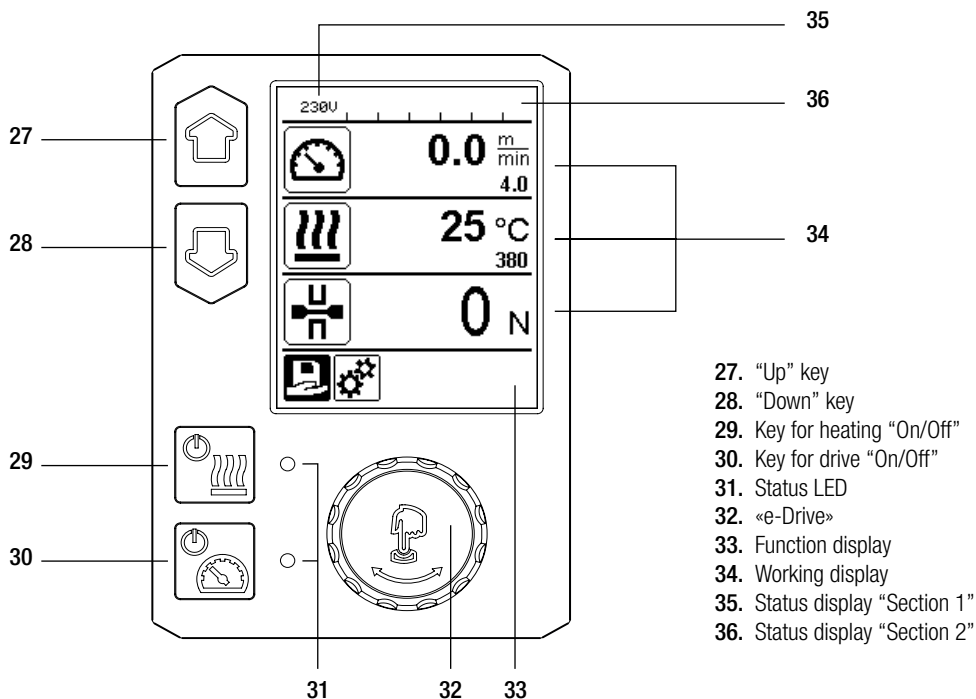


Rotate to the left or right in order to set various menus or values.



Press to confirm or to activate.

5.2 Operating unit



5.3 Status LED display "Heating"

The LED on the **Heating "On/Off" key (29)** displays the conditions of the heating.

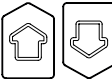


LED status (31) Heating On/Off (29)	Condition	Cause
LED off	Heating is switched off.	
LED flashes green	Heating is switched on. Temperature is outside the tolerance range.	
LED continuously green	Heating is switched on. Temperature is within the tolerance range.	
If, during operation, a warning message occurs in the Status display area 2 (36) or if there is an error message in the working display (34) , then this will be displayed as followed:		
LED flashes red	Warning message for the heating	See warning and error message.
LED continuously red	Error message for the heating	See warning and error message.



5.4 Status LED display “Drive”

The LED of the **Drive “On/Off” key (30)** shows the condition of the drive when it is working as intended.

LED status (31) Drive On/Off (30)	Condition	Cause
LED off	Drive is switched off.	
LED continuously green	Drive is switched on.	
If, during operation of the drive, a warning message occurs in the Status display area 2 (36) or if there is an error message in the working display (34) , then this will be displayed as follows:		
LED flashes red	Drive current limiting is active.	See warning and error message.
LED continuously red	The drive has an error.	See warning and error message.

5.5 Operating unit description

Keyboard mode		Current selection Working display	Current selection function display	Current selection Set-up menu
	Up (27) Down (28)	Changes the position within the working display.	Switches from function display to working display.	Changes the position within the Setup menu.
	Heating On/Off (29)	Switched heating on/off	Switched heating on/off	No function
	Drive On/Off (30)	Switches drive on/off	Switches drive on/off	No function

	Press «e-Drive» (32)	Set value is adopted straight away and the selection jumps straight back to the function display.	Selected function is executed.	Selection of the marked position.
	Rotate «e-Drive» (32)	Setting the desired setpoints in 5 °C or 0.1 m/min increments	Changing the position in the Function display.	<ul style="list-style-type: none"> • Changes the position within the Setup menu • Setting the value of the selected position

5.6 Display description

Status display “Section 1” (35)

Name of the saved value	Profile currently selected. If profile names consist of more than 6 characters, the first 6 characters are shown first, followed by the remaining characters.
230 V	Network voltage currently present on the mains plug.

Status display “Section 2” (36)



Warning present

(see Chap. Warning & Error Messages)



Undervoltage



Overvoltage



Key lock

(only with active key lock)



Heating

(only with activated heating)








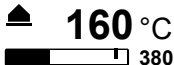


5.7 Function and working display



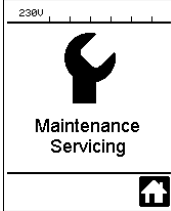


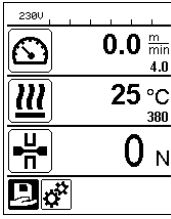




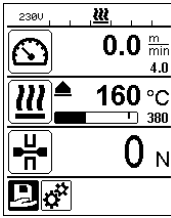




- In the function and working display, it is always the highlighted field/symbol of the current selection that is defined.

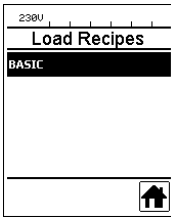






Function display (33)

Symbol	Meaning	Symbol	Meaning
	Select freely definable and predefined profiles		Service menu (can only be accessed by entering the password)
	Settings		Save
	Return to working display (exits a menu directly)		Delete the selected item
	Go back one level		Edit the selected item
	Reset settings or hour counter		



Working display (34)

Symbol	Meaning
	Drive speed [m/min/ft./min]
	Drive speed blocked [m/min/ft./min]
	Welding wedge temperature [°C/°F]
	Welding force [N/lbf]
	Information box
	Devices in standby mode. The heating is switched off after the counter runs through.
	An error has occurred. An error code also appears (the device is no longer ready for use). Contact an authorized service center. See Chapter “Warnings and error messages”
	Warning: See Chapter “Warnings and error messages”
	The arrow pointing upward and the progress bar indicate that the setpoint (shown on the progress bar) has not yet been reached (too cold). The flashing value is the actual value. The value next to the progress bar is the setpoint.
	The arrow pointing downward and the progress bar indicate that the setpoint (shown on the progress bar) has not yet been reached (too hot). The flashing value is the actual value. The value next to the progress bar is the setpoint.
	If “Set Values” is activated, both the actual temperature (large font size) and the set temperature (small font size) are displayed. Default setting ex-works.
	If “Set Values” is deactivated, then only the actual values (large) are displayed during operation, otherwise only the setpoint values (large).

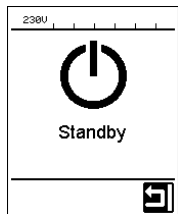
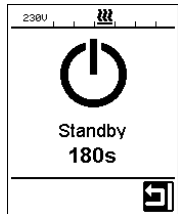
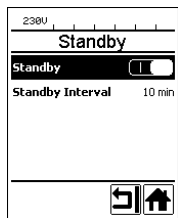
<p>Startup display</p> <p>Display at the time of start-up with software release and device model.</p>	 <p>www.leister.com Automatic Welder GEOSTAR G7</p> <p>LEISTER</p> <p>Leister Technologies AG Switzerland</p> <p>Software Release 1.00</p>
<p>Maintenance service</p> <p>If the maintenance interval for the device has been reached, "Maintenance Servicing" will appear after the startup display. The display disappears automatically after 10 seconds or can be confirmed by pressing «e-Drive» . You must take the device to your service center.</p>	 <p>230V</p> <p></p> <p>Maintenance Servicing</p> <p></p>
<p>Start display</p> <p>All setpoint and actual values are displayed in the start display. The heating is not yet switched on. All setpoint values can be set.</p>	 <p>230V</p> <p> 0.0 ^m/_{min} 4.0</p> <p> 25 °C 380</p> <p> 0 N</p> <p></p>
<p>Welding startup display</p> <p>Display during the heating process.</p>	 <p>230V</p> <p> 0.0 ^m/_{min} 4.0</p> <p> 160 °C 380</p> <p> 0 N</p> <p></p>

<p>Recipe selection</p> <p>Select a recipe that you have defined. The process of selecting a recipe is described in detail in the Chapter "Load recipes".</p>	 <p>230V</p> <p>Load Recipes</p> <p>BASIC</p> <p></p>
<p>Setting</p> <p>In the basic setting, you can save recipes and access the standby function and transmission ratio via the "Setup" menu. Select "Advanced Mode" to access a range of other settings options.</p>	 <p>230V</p> <p>Setup</p> <p>Recipes ▶</p> <p>Standby ▶</p> <p>Gear Ratio Drive Fast</p> <p>Advanced Mode <input type="checkbox"/> 0</p> <p></p> <p>230V</p> <p>Setup</p> <p>Recipes ▶</p> <p>Standby ▶</p> <p>Gear Ratio Drive Fast</p> <p>Advanced Mode <input checked="" type="checkbox"/> 1</p> <p>Duty Info ▶</p> <p></p>
<p>Freely definable recipes</p> <p>The process of saving freely definable recipes is described in detail in the Chapter "Save recipe".</p>	 <p>230V</p> <p>Save Recipes</p> <p>User-defined</p> <p></p>

Readiness

Standby mode is activated. If the engine is switched off, the heating activated and if no button is activated during the time defined under “Standby interval”, then the device will switch over automatically into Standby display. If the «e-Drive»  is not pressed during the subsequent 180 seconds, then the heating will shut off automatically. “Standby” will then appear afterwards on the display. Pressing «e-Drive»  causes the device to switch to Working mode.

Standby mode is deactivated in the factory settings.



Gear Ratio Drive

The value (slow/fast) must match the sprocket wheel arrangement in the gearbox. Chapter “Change gear speed”



Show Duty Info

Hours Drive:

Current running time of the drive

Hours Heating:

Current running time of the heater

Hours Machine:

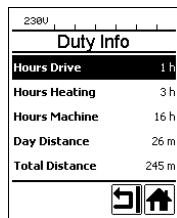
Current running time of the machine

Day Distance:

Currently traveled distance (can be reset)

Total Distance:

Total distance traveled.



Show General Info

Firmware HMI:

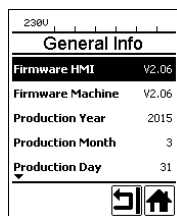
Software version of the display unit (communications module).

Firmware Machine:


Software revision

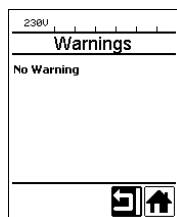
Production Info:

Information on date of production and production number



Warning display

If there is a warning pending, this is indicated by the  symbol in the status display. The “Warnings” menu contains more detailed information about the current warning.



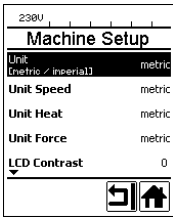
Machine Setup

Unit:
Adjusting the unit used (metric/imperial)

Unit Speed:
Adjusting the LCD contrast

Unit Heat:
Adjusting the background illumination of the display

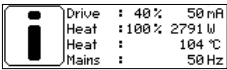
Unit Force:
Adjusting the background illumination of the key-board




The screenshot shows the 'Machine Setup' menu with the following options: Unit (metric/imperial), Unit Speed, Unit Heat, Unit Force, and LCD Contrast (set to 0). Navigation icons for back and home are visible at the bottom.

Application Mode


If "Application Mode" is activated, then more detailed information on the drive and heating capacity utilization appears in the working display (34).



	Drive : 40%	50 nA
	Heat : 100%	2791 W
	Heat : 104	°C
	Mains :	50 Hz

Set Values

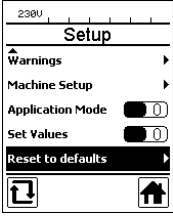
If "Set Values" is activated, both the actual values and the set values are displayed in small font size. Factory setting activated.



The screenshot shows the 'Setup' menu with 'Set Values' activated (indicated by a small '1' in a circle next to the toggle switch). Other options include Warnings, Machine Setup, Application Mode, and Welding Data Record.

Reset to defaults

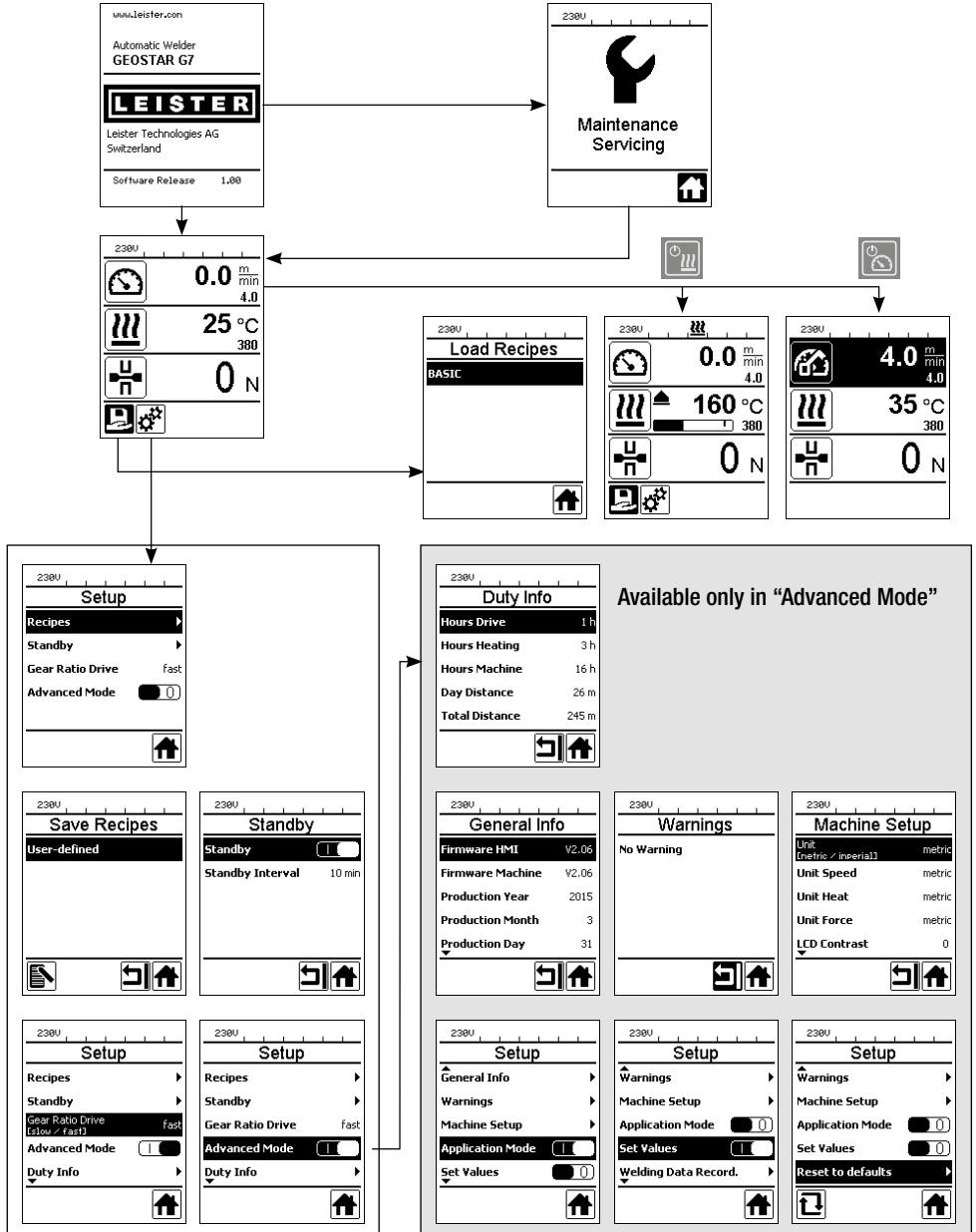
If the "Reset to defaults" menu is selected and confirmed by selecting the relevant function, all customer-specific profiles will be deleted. Settings that have been changed via the Setup menu will be reset to the factory settings.



The screenshot shows the 'Setup' menu with 'Reset to defaults' highlighted. Other options include Warnings, Machine Setup, Application Mode, and Set Values.

6. Menu navigation

The GEOSTAR G5 LQS and GEOSTAR G7 LQS have the Leister Quality System (LQS) and thus the function of welding data recording. Using the LQS and myLeister app, the drive speed, the hot-wedge temperature and the joining force are recorded during welding over the welding seam length at the specified distance interval. You can find more information in the corresponding operating instructions LQS/myLeister at www.leister.com/um-geostarg5g7.



7. Work environment/Safety

The device should only be used in the open or in a well-ventilated area. Be careful not to burn the material during welding.

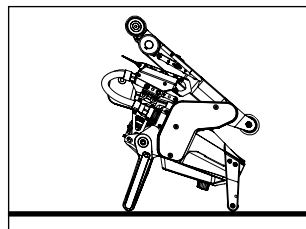
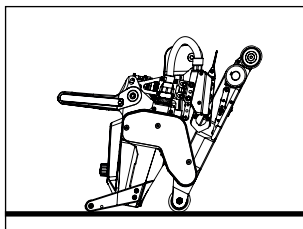
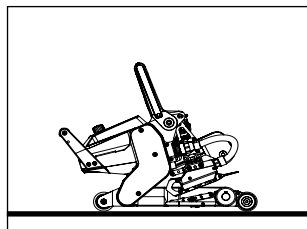
Read and follow the safety precautions provided by the manufacturer for the material.



Prior to commissioning, check the power supply cord (1), the plug, and the extension cable for electrical and mechanical damage. Use extension cables with protective conductors only.

The wedge welder may not be used in areas with explosion and/or ignition hazards. Ensure a stable position during work. The power supply cord (1) must be able to move freely and must not hinder the user or third parties while working.

Place the wedge welder on a horizontal, fireproof support and ensure sufficient distance from flammable materials and explosive gases!



The wedge welder can be placed in three different positions during interruptions in work or for cooling down. The clamping lever must be locked while doing so.

7.1 Extension cable

- The minimum cross-section must be observed when extension cables are used.
- The extension cable must be authorized for the utilization site (e.g. outdoors) and be marked accordingly.
- When a power plant is used as an energy supply, the following applies for its nominal output: $2 \times$ nominal output of the wedge welder and fitted with FI switch.
- Power plant must be grounded.

230 V~	up to 50 m	$3 \times 1,5 \text{ mm}^2$
	up to 100 m	$3 \times 2,5 \text{ mm}^2$
120 V~	up to 50 m	$3 \times 1,5 \text{ mm}^2$
	up to 100 m	$3 \times 2,5 \text{ mm}^2$

- If you are using a mobile power generator, it should have a total distortion fraction of the sine waveform (THD=Total Harmonic Distortion) of less than 6%. This information can be found in the technical data or can be obtained from the supplier. When using mobile power generators with a THD value greater than 6%, damage to electronic components may occur. Leister therefore recommends using portable power generators with inverter technology. The hot wedge welding machine may only be switched on and off when the generator is running, otherwise the electronic components may be damaged.

7.2 Preparation for welding

- Overlap width max. 150 mm
- Sealing sheets must be clean and dry between the overlaps and on the upper and lower side.

8. Setting the welding parameters



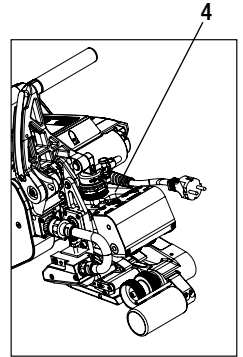
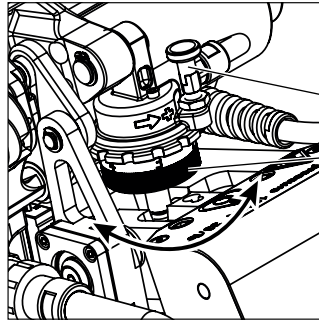
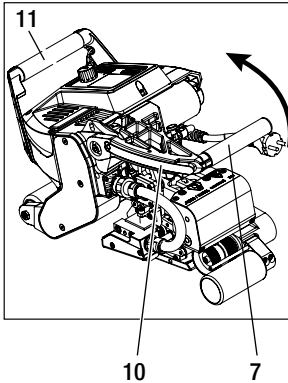
CAUTION!

The welding wedge is set to 2 mm membranes in the factory settings.
The welding wedge (5) must be cooled down for adjustment purposes.
Danger of crushing when closing the clamping arm (4).

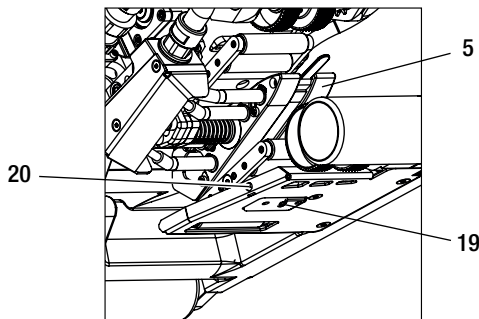
Switch off GEOSTAR with the **main switch (2)** and disconnect from the mains.

Welding force and contacting system

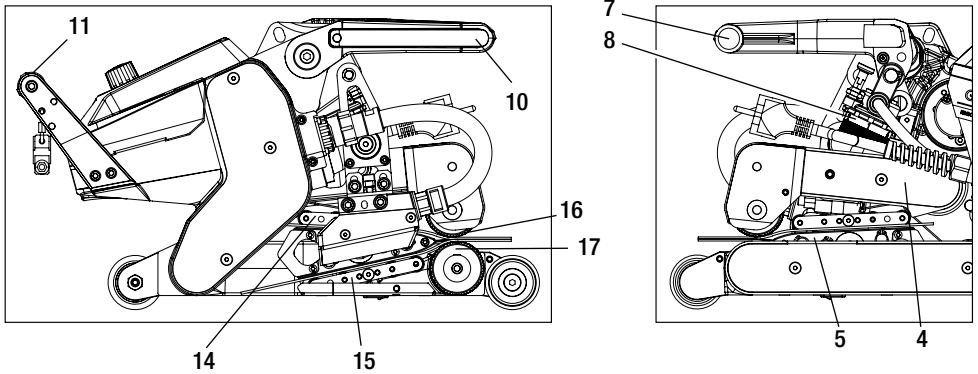
- A. Press the **locking clamping lever (10)** and swing the **clamping lever (7)** up until the lock engages. Use your other hand to accomplish this by holding the automatic welder firmly by the **handle (11)**. Unlock the **welding force safety bolt (9)** by pulling and rotating 90°. Set the **clamping arm (4)** to the maximum opening using the **welding force adjustment ring (8)**.



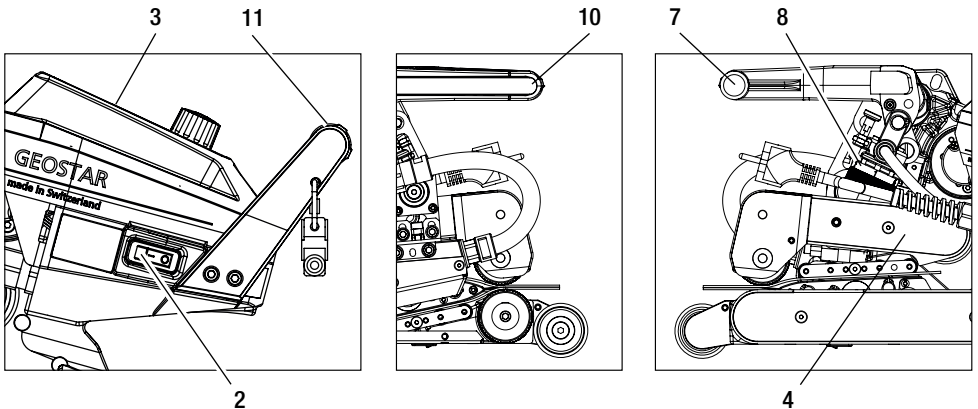
- B. While unclamped, detach the **lower contacting system locking screw (20)**. Screw the **lower contacting system setting screw (19)** a sufficient distance away from the **welding wedge (5)** using a 4 mm socket wrench.



- C. Insert test strips (lower and upper membranes) of the material to be welded between the **upper and lower drive/pressure rollers (16/17)** and between the **upper and lower contacting systems (14/15)** and **welding wedge (5)**. Press the **locking clamping lever (10)** and close the **clamping arm (4)** using the **clamping lever (7)**. Use your other hand to accomplish this by holding the automatic welder firmly by the **handle (11)**. Rotate the **welding force adjustment ring (8)** until the pressure rollers touch lightly against the material to be welded.



- D. Connect the GEOSTAR to the mains and switch on the **main switch (2)**. Press the **locking clamping lever (10)** and swing the **clamping lever (7)** upwards until the **locking clamping lever engages (10)**. Use your other hand to accomplish this by holding the automatic welder firmly by the **handle (11)**. Rotate the **welding force adjustment ring (8)** while open until the welding force on the **operating unit (3)** matches the desired value with the **clamping arm (4)** clamped and the test strip inserted.



CAUTION!

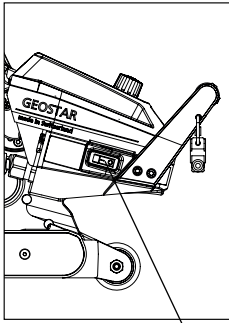
Mechanical damage could occur if the maximum welding force of 1500 N is exceeded.



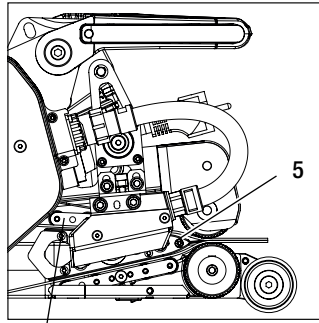
Do not touch moving parts

There is a risk of inadvertently becoming caught and being pulled in. Do not wear loose articles of clothing such as scarves or shawls. Tie up long hair or protect it by wearing headgear.

- E. Switch off the **main switch (2)** and disconnect GEOSTAR from the mains. While clamped, screw the **lower contacting system (15)** with the **lower contacting system setting screw (19)** in the direction of the **welding wedge (5)** until the lower test strip is touching the **welding wedge (5)**. Then rotate the **lower contacting system setting screw (19)** once in the direction of the **welding wedge (5)** so that the **upper contacting system (14)** is pre-tensioned.

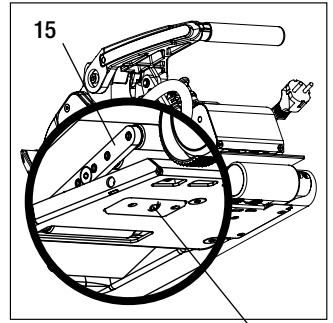


2



14

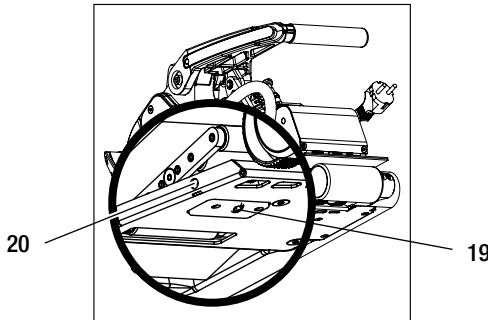
5



15

19

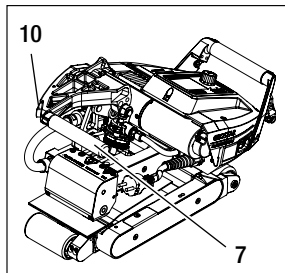
- F. The **lower contacting system setting screw (19)** must be locked with the **lower contacting system locking screw (20)**.



20

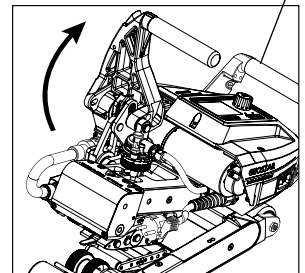
19

- G. Press the **locking clamping lever (10)** and swing the **clamping lever (7)** upwards until the **locking clamping lever (10)** engages. Use your other hand to accomplish this by holding the automatic welder firmly by the **handle (11)**. Remove the test strips. The machine is ready for use.



10

7



11

8.1 Function description

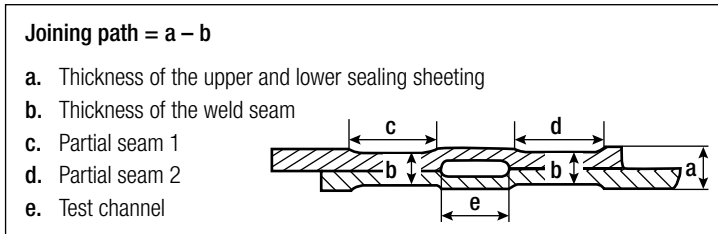
Heating system:

- The welding wedge temperature is adjustable and electronically controlled between 80 °C and 460 °C.
- The temperature can be set in 5 °C increments.

Welding force

- The welding force is steplessly adjustable. The welding force is transmitted through the **clamping lever (7)** and **clamping arm (4)** to the **upper and lower drive/pressure rollers (16/17)**.

Cut-away model of a lap weld



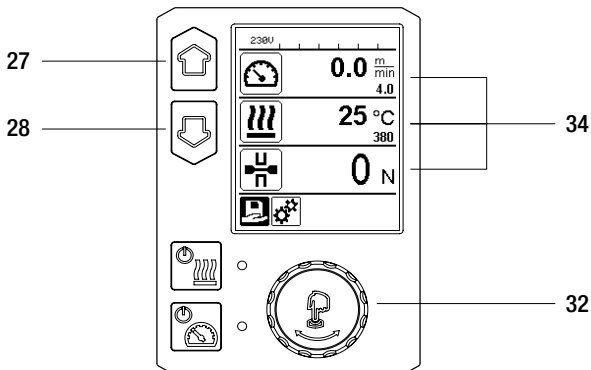
Drive

- The drive is a dual drive system, steplessly adjustable and electronically controlled.
- The speed can be set in 0.1 m/min increments.
- The closed-loop system is designed in such a way that the respective welding speed load that has been set remains independently constant. The transmission of force to the **upper and lower drive/pressure rollers (16/17)** takes place via a planetary gear.

8.2 Speed and temperature setting before welding





If the **drive** and the **welding wedge** are **switched off**, the temperature and speed welding parameters in the **working display (34)** are set as follows:

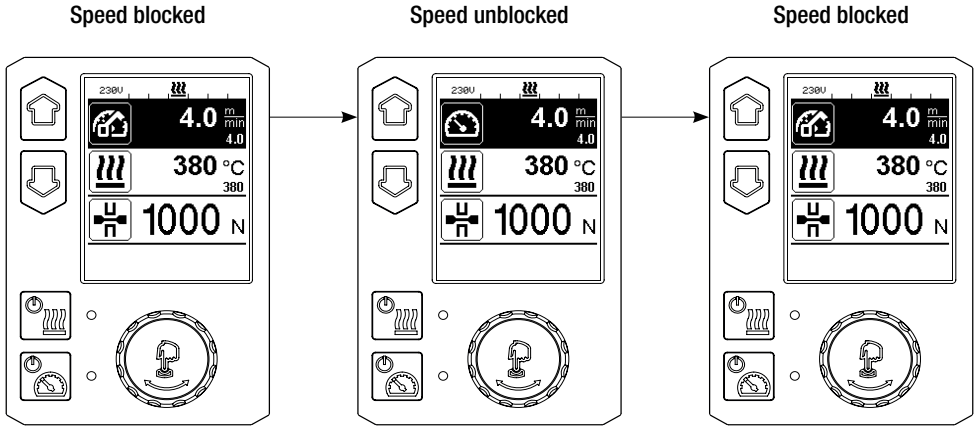
- Using the arrow keys “Up” (27) and “Down” (28), the cursor can be set to the desired **working display (34)**.
- The setpoint value can now be set by rotating the «e-Drive» (32). The set value is applied immediately.
- A switch is made to the function display after 5 seconds or by pressing the «e-Drive» (32).



8.3 Setting the speed and temperature during welding

If the **drive is switched on**, then the temperature and speed welding parameters in the **working display (34)** are set as follows:

- The **speed working display (34)** is blocked during welding.
- Briefly pressing the «e-Drive»  enables the speed setting and the speed can be modified by rotating the «e-Drive» .
- The speed is blocked after 5 seconds or by pressing the «e-Drive» .
- The speed can no longer be adjusted.
- The “Down” arrow key (28) can be used to set the cursor to the heating working display and the temperature setpoint can be modified by rotating the «e-Drive» . The set value is applied immediately.



8.4 Starting the device

- If necessary, mount the respective **drive/pressure rollers (16/17)** and set the desired transmission ratio (see Chapter “Change gear speed”).



Before starting the device, check the power cord, the plug and the extension cable for electrical and mechanical damage.





Connect the device to an outlet with a **protective conductor**. **Any interruption of the protective conductor inside or outside of the device is not permitted.** Only use extension cables with protective conductors.



The local **supply voltage** must match the line voltage specified on the device. If the **line voltage** fails, switch off the main switch and place the welding machine in the park position.






If the device is being used on construction sites, a **fault current circuit breaker** must be used to protect site personnel from electrical shock **due to dampness and moisture**.

- The welding wedge has been set to a factory setting for 2 mm membranes.
- Switch on the wedge welder via the **main switch (2)**.
- Set the welding force and the contacting system (see Chapter “Setting the welding parameters”).
- Set the welding parameters (temperature/speed) (see Chapter “Speed and temperature setting before welding”).
- Switch on heating with the **“Heating On/Off” key** . The **heating key**  must be pressed and held for **1 second**. Afterwards an acoustic signal is sounded and “Heating on” appears briefly in the display.

8.5 Welding process



Before the wedge welder is used, test welds are to be carried out in accordance with the welding instructions of the material manufacturer and with national standards or guidelines. The test welds must be checked.


- The wedge welder temperature must be achieved.
- Insert the wedge welder into the overlapping plastic sheets.
- Use the “Drive On/Off” key  to switch on the drive.
- Close the **clamping lever (7)** by pressing the **locking clamping lever (10)**. Use your other hand to accomplish this by holding the automatic welder firmly by the **handle (11)**. Welding wedge is placed in the correct position automatically.
- Check the position, alignment and welding parameters continuously.
- Use **handle (11)** to guide the automatic welder along the overlap.
- If necessary, brief pressure and subsequent rotation of the «e-Drive»  &  can be used to modify the welding speed during operation (see Chapter “Speed and temperature setting during welding”).
- Release the **clamping arm (4)** by pressing the **locking clamping lever (10)** and actuating the **clamping lever (7)** 1 cm before the end of the welding seam. Use your other hand to accomplish this by holding the automatic welder firmly by the **handle (11)**. The wedge welder can be extended.



CAUTION!

The upper drive/pressure roller (16) and the lower drive/pressure roller (17) may run in contact with one another without welding material.

8.6 Switching off the device

- Switch off the drive motor with the **drive key**  by applying brief pressure, and switch off the heating with the **heating key** . The **heating key**  must be pressed and held for 1 second. Afterwards an acoustic signal is sounded and “Heating off” appears briefly on the display.
- Clean the welding wedge of any adhering welding material using the brass brush included in the scope of delivery.



Danger of fire and explosion

Hot wedge welding machines can become an ignition source for fire and explosion even when switched off. Please do not leave/park in the vicinity of flammable materials and explosive gases. The device should always first be allowed to cool down.



Risk of burning! Do not touch the welding wedge when it is hot.

Allow the device to cool down. Allow the **welding wedge (5)** to cool down after the welding tasks are completed.





Switch off the wedge welder with the **main switch (2)** and disconnect the **power cord (1)** from the mains.

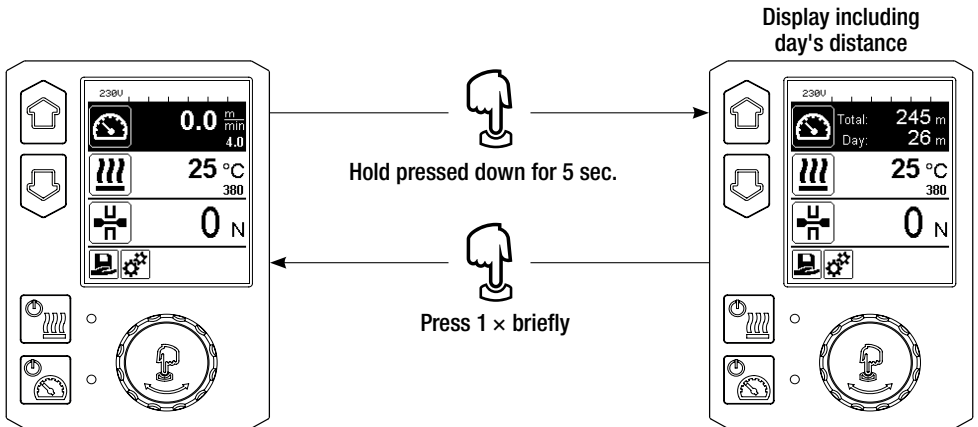
8.7 Display of day's distance

The welded distance is recorded as soon as the drive is running and more than 100 N force is displayed in the **working display (34)**.




The day's distance can be called up as follows:

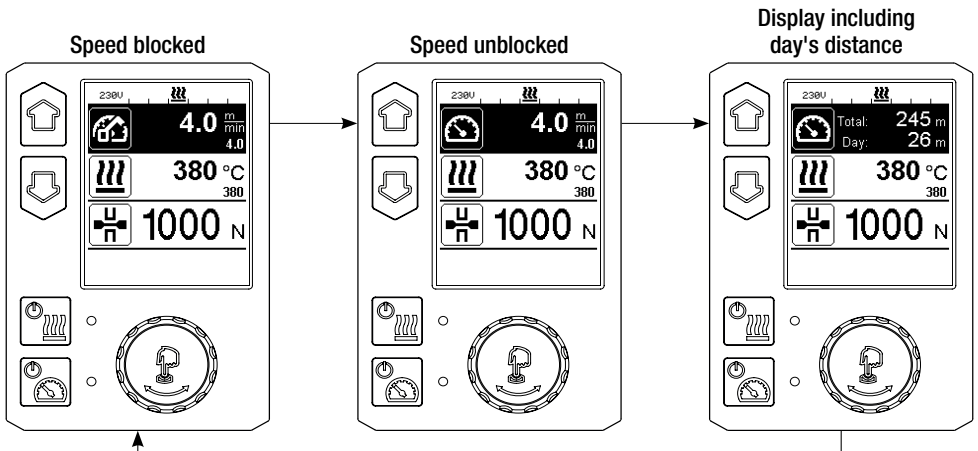
Not in welding mode

- Use the **“Up” (27) and “Down” (28) arrow keys** to position the cursor on the speed in the **working display (34)**.
- Hold down the **«e-Drive»**  for 5 seconds.
- The values of the day's distance and the total distance are now shown in the speed display.
- Briefly pressing the **«e-Drive»**  causes the speed to be shown again in the **working display (34)**.














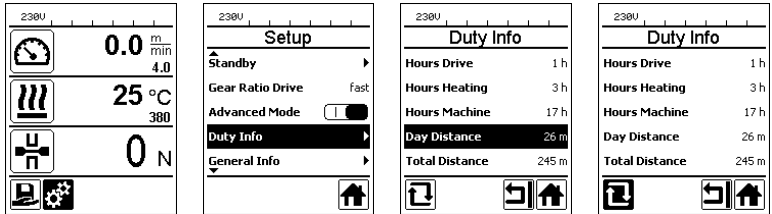
In welding mode

- The **speed working display (34)** is blocked during welding.
- The speed setting is enabled by briefly pressing the **«e-Drive»** .
- Hold down the **«e-Drive»**  for 5 seconds.
- The values of the day's distance and the total distance are now shown in the speed display.
- Briefly pressing the **«e-Drive»**  causes the speed to be shown again in the **working display (34)** and the **speed working display (34)** is blocked.



8.8 Deleting the day's distance



- In the **function display (33)**, rotate the «e-Drive»  to select the **Settings**  menu.
- Press the «e-Drive»  briefly.
- Select “Duty Info” in the “Setup” menu by rotating the «e-Drive»  and pressing it briefly .
- Rotate the «e-Drive»  to select “Day Distance” and press the «e-Drive»  briefly.
- The hour counter symbol  is highlighted. Press the «e-Drive»  to confirm.
- The day's distance is deleted.
- In the **function display (33)**, rotate the «e-Drive»  to select the symbol “Return to working display” .

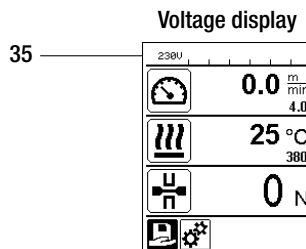
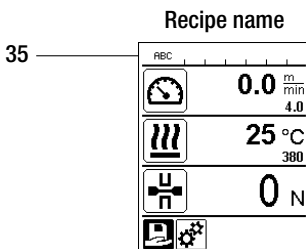


8.9 Key lock

The key lock is activated or deactivated by simultaneously pressing “Up” and “Down” keys (27/28) for at least 2 seconds.




8.10 Recipe selection

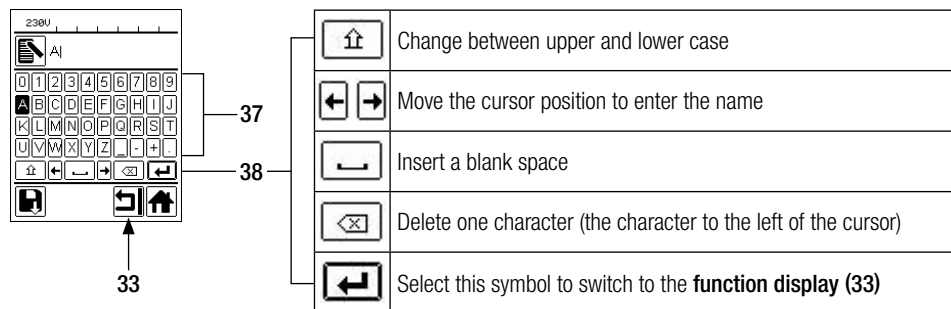
- The GEOSTAR has ten freely definable recipes.
- Selecting the **symbol**  in the **function display (33)** takes you to the “load recipes” menu. The recipes can be selected with the “Up” and “Down” (27/28) keys and confirmed by pressing the «e-Drive» .
- If, during operation, you change setpoints in recipes you have created, the setpoints will not be saved in the recipe.
- Every time the machine is switched on/off, the values defined in the recipe will reappear.
- The currently selected recipe can be seen on the left in the status display “Section 1” (35).
- If you would like to use the last set values when you switch on the machine again, you must select the BASIC recipe.
- If the “BASIC” recipe is selected, then the “BASIC” recipe will not appear in the status display “Section 1” (35), but instead the voltage that is present on the device.



8.11 Entering names or passwords

In keyboard mode, you can define names or enter passwords with a maximum of 12 characters.

















Keyboard		Character selection (37)	Symbol selection (38)
	Up (27) Down (28)	Vertical character selection	
	Rotate «e-Drive» (32)	Horizontal character selection	Horizontal symbol selection
	Press «e-Drive» (32)	Confirm the selected characters	Confirm the selected symbols

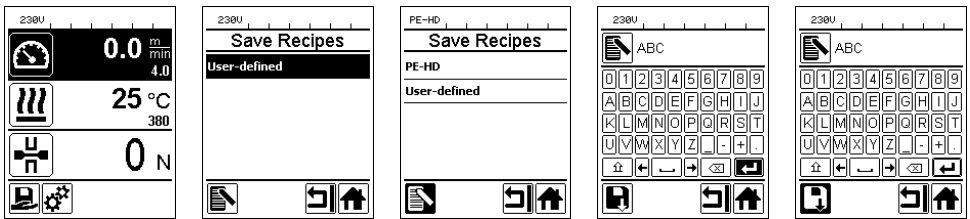


8.12 Defining recipes















In the “Save recipe” menu, you can save setpoint settings for the temperature and speed parameters along with a name you have selected (see Chapter “Entering names or passwords”).

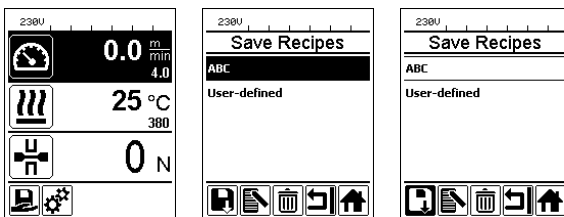
Creating a new recipe:

- In the **working display (34)**, set the desired setpoints with the «e-Drive» .
- In the **function display (33)**, use the «e-Drive»  to select the **Settings**  menu and confirm this by pressing the «e-Drive» .
- In the “Setup” menu, select the “Save recipe” option with the «e-Drive»  and confirm by pressing the «e-Drive» .
- Select the recipe “User-defined” with the «e-Drive»  and confirm by pressing the «e-Drive» .
- Use the «e-Drive»  to select the symbol “Edit the selected item”  in the **function display (33)** and confirm this by pressing the «e-Drive» .
- Enter the desired recipe name (see Chapter “Entering names or passwords”), then confirm by selecting the **symbol**  and by pressing the «e-Drive» .
- In the **function display (33)**, select the selected symbol “Save”  by rotating the «e-Drive»  and confirm this selection by pressing the «e-Drive» . The recipe has now been successfully saved.



Editing an existing recipe

- In the **working display (34)**, set the desired setpoints for the temperature and speed with the «e-Drive» .
- In the **function display (33)**, use the «e-Drive»  to select the **Settings**  menu and confirm this by pressing the «e-Drive» .
- In the “Setup” menu, select the “Save recipe” option with the «e-Drive»  and confirm by pressing the «e-Drive» .
- Select the recipe to be edited and confirm by pressing the «e-Drive» .
- In the **function display (33)**, select the symbol “Edit the selected item”  and confirm by pressing the «e-Drive» .
- Enter the desired recipe name (see Chapter “Entering names or passwords”), and then use the «e-Drive»  to select the **symbol**  and confirm the selection by pressing the «e-Drive» .
- In the **function display (33)**, confirm the selected symbol “Save”  by pressing the «e-Drive» . The recipe has now been successfully saved.



9. Power supply interruption

Condition of device prior to mains interruption	Duration of power supply interruption	Condition of device after mains interruption
Drive and heating are switched on (welding process).	≤ 5 sec.	The device continues running without a restart safeguard with the same settings as before the interruption.
The drive and heating are switched on (welding process).	> 5 sec.	The device starts up and the start display appears on the display.
The device is not in the welding process.	-	The device starts up and the start display appears on the display.

10. Adjusting the track roller height

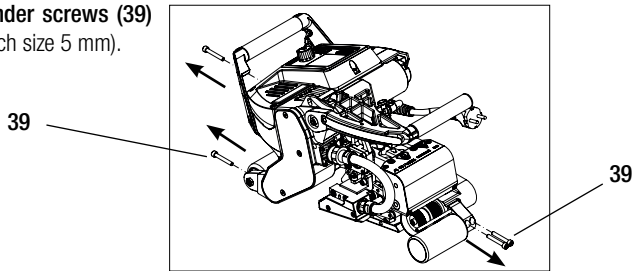


Risk of burning!

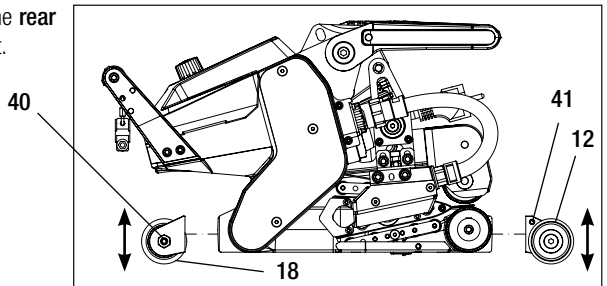
Before dismantling, it must be ensured that the welding wedge has cooled down, the device has been switched off with the main switch (2), and the power cord is disconnected from the mains.

The chassis height can be increased or reduced by adjusting the track rollers at the front (18) and rear (12).

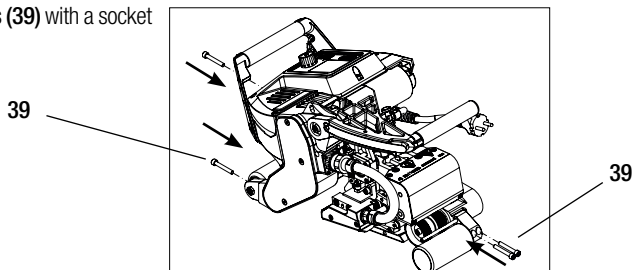
- A. Undo and remove the **cylinder screws (39)** with a socket wrench (wrench size 5 mm).



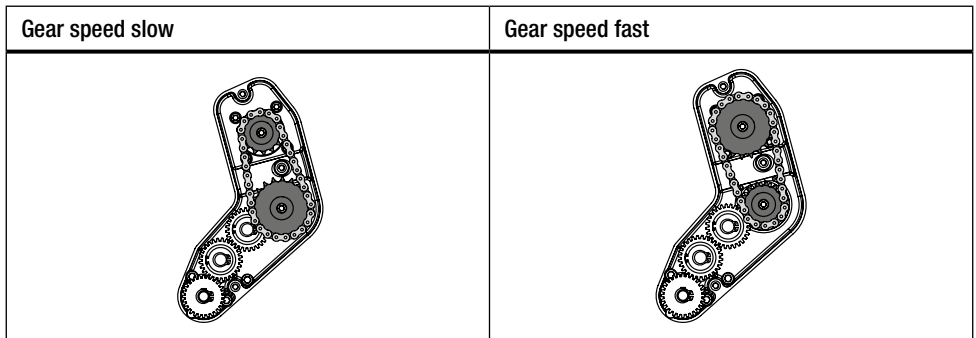
- B. Set the **front roller holder (40)** and the **rear roller holder (41)** to the desired height.



- C. Tighten the **cylinder screws (39)** with a socket wrench (wrench size 5 mm).



11. Change gear speed

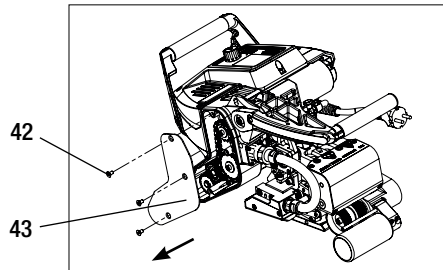


The machine has less feeding force (smaller torque) at the “fast” gear level.

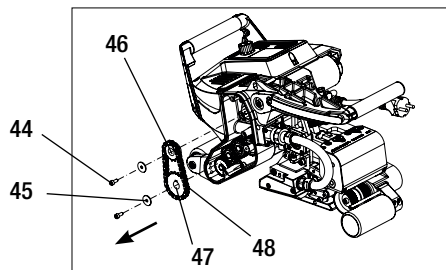
Risk of burning!

Before dismantling, it must be ensured that the welding wedge has cooled down, the device has been switched off with the main switch (2), and the power cord is disconnected from the mains.

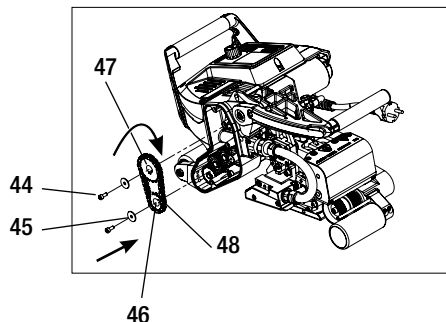
- A. Undo the **countersunk screws (42)** with a socket wrench (wrench size 3 mm) and remove the **transmission cover (43)**.



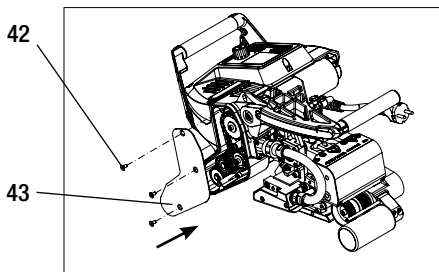
- B. Undo the **cylinder screws (44)** with a socket wrench (wrench size 4 mm) and remove with the **disks (45)**. Pull off the **small sprocket wheel (46)** and the **large sprocket wheel (47)** together with the **chain (48)** from the shafts.



- C. Rotate the **large sprocket wheel (47)** and the **small sprocket wheel (46)** with the **chain (48)** by 180° and slide back onto the shafts. Mount the **cylinder screws (44)** with the **disks (45)** and tighten with a torque of 6 Nm.

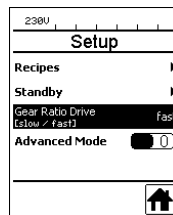
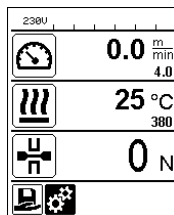


D. Mount the **transmission cover (43)** with the **countersunk screws (42)**.



E. **Adaptation of the transmission ratio**

- In the **function display (33)**, use the «e-Drive» to select and then confirm & the **setting** .
- Afterwards, select “Gear Ratio Drive” by rotating the «e-Drive» and confirm & .
- Rotate the «e-Drive» to select “slow” or “fast” and confirm by pressing the «e-Drive» .
- In the **function display (33)**, use the «e-Drive» to select the symbol “Return to working display” .



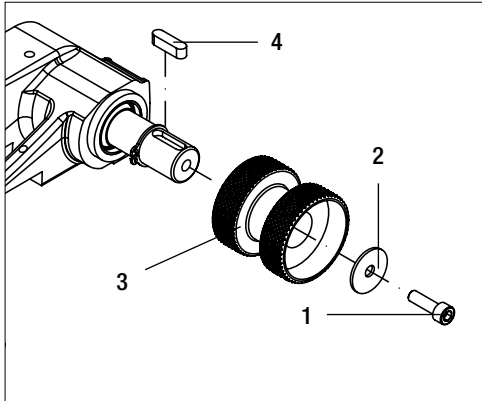
12. Replacement of pressure rollers



Risk of burning!

Before dismantling, it must be ensured that the welding wedge has cooled down, the device has been switched off with the main switch (2), and the power cord is disconnected from the mains.

Depending on the application, different drive/pressure rollers may be used.



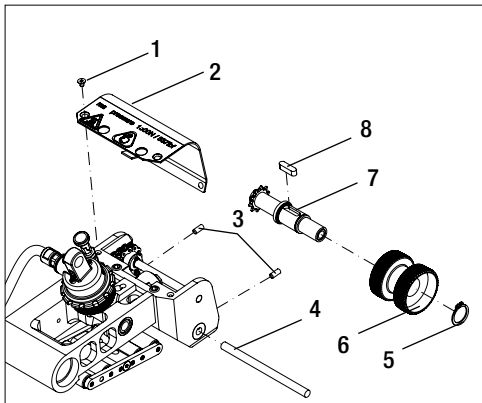
Dismantling the lower drive/pressure roller (17):

Sequence no. 1 – 4

Assembling the lower drive/pressure roller (17):

Reverse sequence no. 4 – 1

1. Cheese head screw
2. Washer
3. Pressure roller
4. Parallel key



Dismantling the upper drive/pressure roller (16):

Sequence no. 1 – 8

Assembling the upper drive/pressure roller (16):

Reverse sequence no. 8 – 1

1. Countersunk screw
2. Protective plate, swivel head
3. Grub screws
4. Axle
5. Retaining ring
6. Pressure roller
7. Drive shaft, upper
8. Parallel key

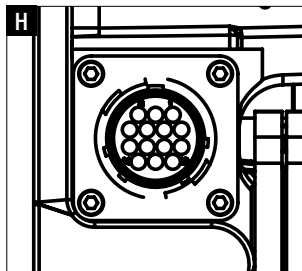
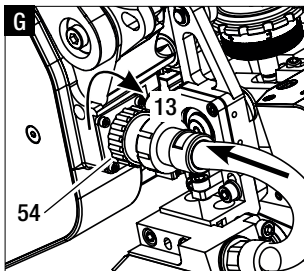
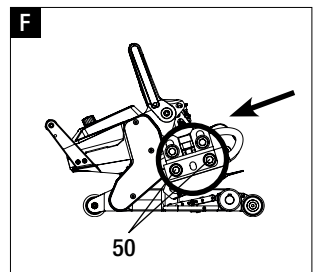
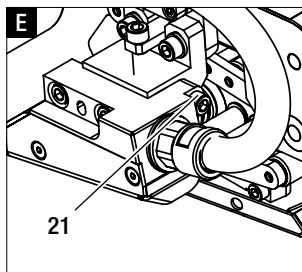
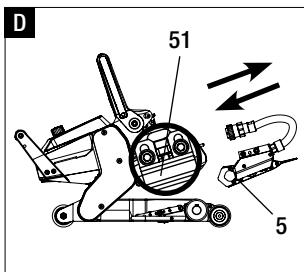
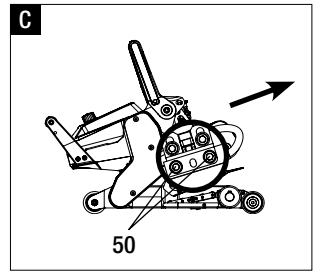
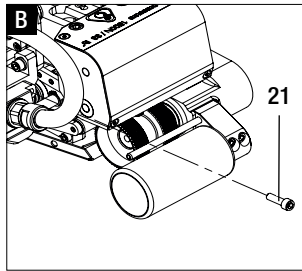
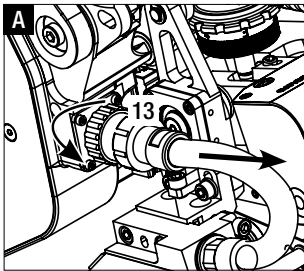
13. Welding wedge replacement




Risk of burning!

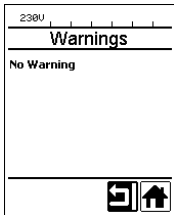
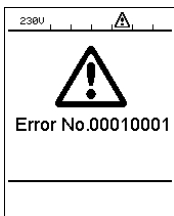
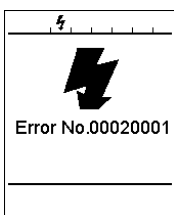

Before dismantling, it must be ensured that the welding wedge has cooled down, the device has been switched off with the main switch (2), and the power cord is disconnected from the mains.

- A. Rotate the ring on the **welding wedge plug (13)** counterclockwise until it hits the stop.
Pull off the **welding wedge plug (13)** from the device.
- B. Loosen the **welding wedge locking screw (21)** with the socket wrench (wrench size 5 mm).
- C. Loosen the **cylinder screws (50)** with the socket wrench (wrench size 5 mm).
Pull off the welding wedge unit towards the rear.
- D. Move the new **welding wedge (5)** inward into the **guide (51)**.
- E. Tighten the **welding wedge locking screw (21)**.
- F. Tighten the **cylinder screws (50)** with 8.8 Nm.
- G. Insert the **welding wedge plug (13)** back into the **socket (54)**. **IMPORTANT!** Pay attention to the mechanical reverse polarity protection (**Figure H**). Tighten the ring on the **welding wedge plug (13)** clockwise until it engages.



14. Warnings and error messages

- If there is a warning pending, the user can continue to work. You can access more detailed information about the warning via the **function display (33)** by selecting “Warnings” in the *Settings* menu.
- If a warning occurs while welding, this can be displayed with the “Up” key .
- If an error occurs, the heating is switched off and the drive is no longer released.
- If the drive is blocked, switch off the **main switch (2)** and disconnect the **power cord (1)** from the mains. Contact a Leister service center.

Type of message	Display	Error code/ warning message	Error description
		Ambient Temperature	Ambient temperature is too high
		Undervoltage	Undervoltage
		Overvoltage	Overvoltage
		Max. Force Exceeded	Max. clamping force exceeded
		Drive Overcurrent	Current limitation
Error		0001.XXXX	Device has overheated. Allow the device to cool down.
Error		0002.XXXX	Overvoltage or undervoltage of the mains voltage. Check voltage source.
Error*		0004.XXXX	Hardware error
		0008.XXXX	Thermocouple is defective
		0020.XXXX	Heating cartridge is defective
		0200.XXXX	Communication error
		0400.XXXX	Drive error
*Contact Leister Service Center			

15. Accessories

- Only Leister accessories may be used.

16. Training course

- Leister Technologies AG and its authorized service points offer welding courses and introductory training classes. Information at www.leister.com.

17. Maintenance



Risk of burning! Do not touch the welding wedge when it is hot. Allow the device to cool down.


- Disconnect the device from the mains for maintenance work.

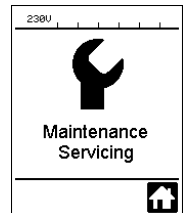


Allowing **welding wedge (5)** to cool down.

- Clean welding wedge with brass brush
- Clean drive rollers with wire brush.
- Check the **power supply cord (1)** and plug for electrical and mechanical damage.

18. Service and repair

- Repairs shall be assigned exclusively to authorized Leister Service Centers. These guarantee a professional and reliable repair service within 24 hours with original spare parts in accordance with circuit diagrams and spare parts lists.
- If the display "Maintenance servicing" appears after the wedge welder device is switched on, the wedge welder should be checked by an authorized Leister service center. The drive unit has reached 800 operating hours.
- The display disappears automatically after 10 seconds or can be confirmed by pressing «e-Drive» .



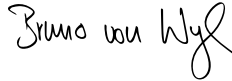
19. Conformity

EU Declaration of Conformity

Leister Technologies AG, Galileo-Strasse 10, CH-6056 Kägiswil, Switzerland confirms that this product in the model made available for purchase, fulfills the requirements of the following EU directives.

Directives: 2006/42/EC, 2014/30/EU, 2014/53/EU, 2011/65/EU
Harmonized standards: EN ISO 12100, EN 55014-1, EN 55014-2, EN 61000-6-2, EN 61000-3-2, EN 61000-3-3, EN 62233, EN 60335-1, EN 60335-2-45, ETSI EN 300 328, EN IEC 63000

Kägiswil, 03/16/2022



Bruno von Wyl, CTO



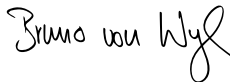
Christoph Baumgartner, GM

UK Declaration of Conformity

Leister Technologies AG, Galileo-Strasse 10, 6056 Kaegiswil, Switzerland confirms that this product in the model made available for purchase, fulfills the requirements of the following UK Statutory Instruments.

UK Statutory Instruments: 2008 No. 1597, 2016 No. 1091, 2017 No. 1206, 2012 No. 3032
Designated Standards: EN ISO 12100, EN 55014-1, EN 55014-2, EN 61000-6-2, EN 61000-3-2, EN 61000-3-3, EN 62233, EN 60335-1, EN 60335-2-45, ETSI EN 300 328, EN IEC 63000

Kaegiswil, 03/17/2022



Bruno von Wyl, CTO



Christoph Baumgartner, GM

20. Disposal



Do not dispose of electrical equipment with household refuse.

Electrical appliances, accessories and packaging should be recycled in an environmentally friendly manner. When you are disposing of our products, please observe the national and local regulations.

Warranty

- The guarantee or warranty rights granted for this device by the direct distribution partner/salesperson apply from the date of purchase.
- In the event of a guarantee or warranty claim (verification by invoice or delivery note), manufacturing or processing errors will be rectified by the sales partner through replacement delivery or repair.
- Other guarantee or warranty claims are excluded within the framework of mandatory law.
- Damage resulting from natural wear, overload, or improper handling is excluded from the warranty.
- Heating elements are excluded from warranty obligations or guarantees.
- Guarantee or warranty claims cannot be asserted for devices that have been converted or changed by the purchaser or for which non-original Leister spare parts have been used.



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