

**BAK**  
www.bak-ag.com

BAK Technology AG  
Industriestrasse 6  
6064 Kerns/Switzerland

E-Mail info@bak-ag.com  
Telefon +41 (0)41 661 22 50  
Fax +41 (0)41 661 22 51

# Automatic welding machine type LarOn 21

## OPERATING MANUAL





## **WARRANTY AND LIABILITY**

Warranty and liability apply from the date of purchase (documented by the invoice/delivery note) according to the currently valid general terms of business of BAK. BAK refuses to honor any warranty for devices which are not in their original condition. BAK devices may never be reconfigured and/or modified.

BAK reserves the right to deny any responsibility if this is ignored. No liability can be assumed by BAK for incorrect installation and/or use as well as natural wear and tear of components (e.g. heating elements).

### **Note:**

This operating manual must be available to the installation and operating personnel at all times. Read these operating instructions carefully before installing and using the device.

### **Copyright:**

This document must not be disclosed to third parties without the explicit written approval of BAK. Any forms of reproduction or copying and electronic storage are prohibited.

## **INTENDED USE**

The LarOn 21 is an automatic welding machine for overlap welding of roofing membranes made of PE, PVC, TPO, ECB, EPDM, CSPE and bitumen. The machine can also be used in areas close to edges.

Any improper use may result in danger for the operator or third parties or may adversely affect machines and assets.

Only use the automatic welding machine if in technically perfect condition and for the purposes for which they are intended while observing the operating instructions.

The tool can be used for the applications mentioned in the present operating instructions only!

### **Stop operating the automatic welding machine if**

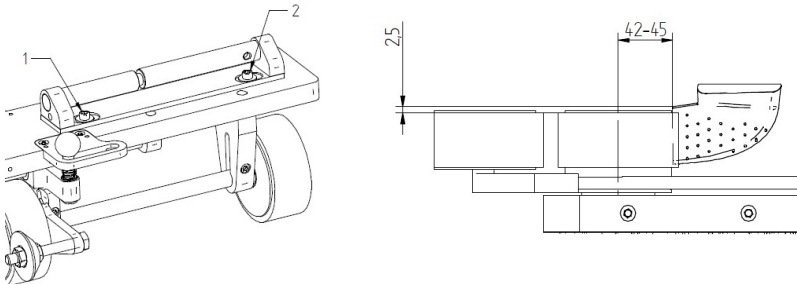
- the connecting line or the plug have been damaged.
- safety installations have been damaged.
- changes occur in the operating state.

## **EXTENSION CORDS**

When using extension cords the minimum diameter of cables must be observed. Extension cords must be approved and marked for their place of utilization.

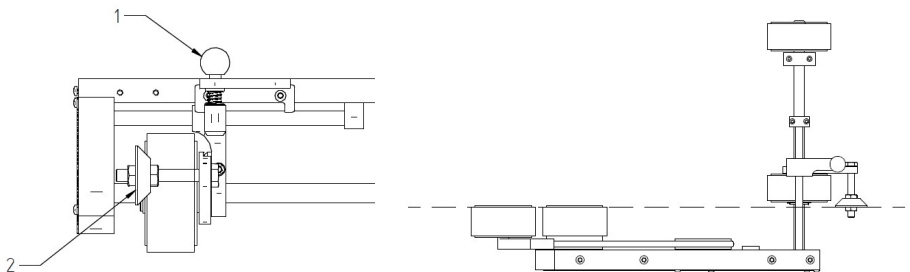
## NOZZLE ADJUSTMENT

Changes of the nozzle adjustments can be done if screws (1, 2) are loosened. For recommended setting use the following sketch:



## GUIDE ROLLER ADJUSTMENT

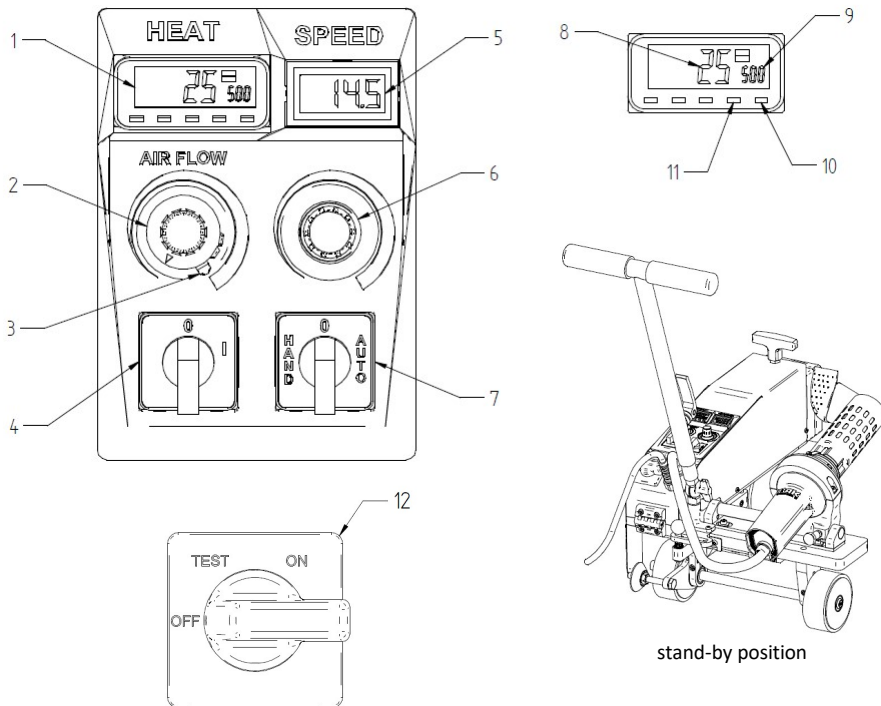
- Bring the automatic welding machine into the welding position
- Push the stop bolt (1) first down and then to the right, this way it is possible to slide the roller to the right stopper. (The roller has to be lifted lightly)
- Flap the guide wheel (2) down and fasten it with the hexagon nut on the threaded bar. The outer edge of the overlap, outer edge of the pressure roller and outer edge of the guide wheel must form a line. (according the following sketch):



## STARTING OF THE WELDING MACHINE

**Attention:**

Always do a test welding before the real welding to find out the parameters.



Before connecting the tool to the mains supply please check that:

- Main switch (12) is on position OFF
- Drive switch (7) is on 0
- Heating switch (4) is on 0
- Potentiometer for airflow (2) on the right, 100% (the retaining (3) has to be detached by spinning in clockwise direction)
- The hot air blower is on stand-by position (according the sketch above)

Following process needs to be done:

- Plug in the connection plug
- Put the main switch (12) on test mode, check the display (5). The display has to show the nominal voltage. (+/-10%):
  - If the anomaly is more than 10% the automatic welding machine is not allowed to be in operation and the main switch has to be on OFF.
  - If the shown tension is inside the tolerance, switch the main plug on ON.
- Now adjust the desired heating value (9) on the temperature controller (1) by pushing the up or down buttons (10, 11).
- Turn the switch for the heater on (4).
- The machine will heat up to the set temperature.
- Adjust the desired welding speed on the potentiometer (6), it will be shown on the display (5).
- The switch for the drive (7) has two functions:
  - On the position HAND the drive starts right away and is in continuous operation.
  - On the position AUTO the drive starts after sliding the nozzle into the overlap welding and will be stopped right after sliding it back out.
- After the welding process, the machine needs to cool down. Put the switch for the heater (4) on 0 and wait until the actual heating value (8) is under 80°C/176°F.
- To disconnect the automatic welding machine from the electricity, put the main switch on OFF and plug out the mains connection.

## ASSEMBLY



### Attention:

Always plug out the mains before working on the machine!

### Changing the heating element (only if the tool is properly cooled down)

- Swing out the hot air blower and lock it
- Loosen four screws on the flange of the nozzle
- Take off the nozzle
- Take off the mica tube (be careful, the mica tube is fragile)
- Take off the gasket ring
- Take off the damaged heating element
- Plug in the new heating element – double check the markings, the wattage and the voltage
- Put on the mica tube
- Put on the gasket ring, position the drillings
- Slide on the nozzle and attach it with the four screws
- Adjust the nozzle according the sketch on page 4

## **MAINTENANCE**

- Clean the nozzle with a wire brush at the end of the welding
- Treat the chains by necessity with chain spray
- After use, always check that the mains cable and the plug are not damaged. Should the mains cable of the tool be damaged, it must be immediately exchanged by the supplier, his customer service or another qualified person to prevent danger.

## **WARNING**

- If the power supply cable gets damaged, it has to be replaced by the manufacturer, its customer service or by a qualified person in order to avoid danger.
- The machine must not be used by personnel (including children) with limited physical, sensory or mental capabilities or lack of experience and/or knowledge, except when supervised by a person who is responsible for their safety or when advised how to use the device by that person.
- Children must be supervised in order to ensure that they do not play with the machine.
- Because of the enormous fire danger, the operating personnel must be specially briefed and regularly instructed.
- Fire can occur if the machine is not used carefully.
- Do not leave the machine unobserved while it is in operation.
- Demonstrate the necessary caution when operating the device near inflammable materials. Do not operate on the same surface for longer periods of time.
- A fire extinguisher must always be within reach in the work area.
- The machine must not be used in explosive atmospheres.
- Heat may reach inflammable materials that are not readily visible.
- There is a very significant risk of fire when the machine stops because of any disturbance and the hot air device is still running (max. temperature 620 °C). Therefore, special attention should be placed on the subsurface and the material to be processed.
- The welding machine must not be used on inflammable surfaces (e. g. wooden roofs and floors made of wood)
- The machine bears the protection mark IP20 and must therefore be protected from damp and rain.
- When using the machine on roofs and tables, it could fall down due to its automatic drive system. In order to avoid a fall, necessary precautions must be taken.

## **OPERATIONAL SAFETY**

The automatic welding machine is manufactured in accordance with the recognized rules of technology. The latest safety standards have been observed to eliminate work related risks to the life and health of the operating personnel when the machine is used in accordance with its intended use.

## DANGER ZONE

The main danger zone of the automatic welding machine is the nozzle which can heat up to temperatures of 620°C. It is recommended to wear heat protective gloves. While sliding in the nozzle bruises can occur.

## GPS

A GPS tracker is built in in the automatic welding machine. In connection with the myBAK app it's possible to check where the machine is. Please be aware of the national data security laws in your country and consider those.

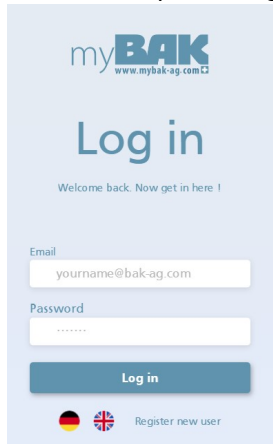
## SIM

There is a SIM inside of the automatic welding machine. With this SIM the GPS signal is sent to the APP. The SIM has a running time of 10 years or 500MB. If used daily the data volume should be sufficient for approx. 500 working days. BAK can recharge the SIM for a small fee. Please get in touch with your BAK Partner.

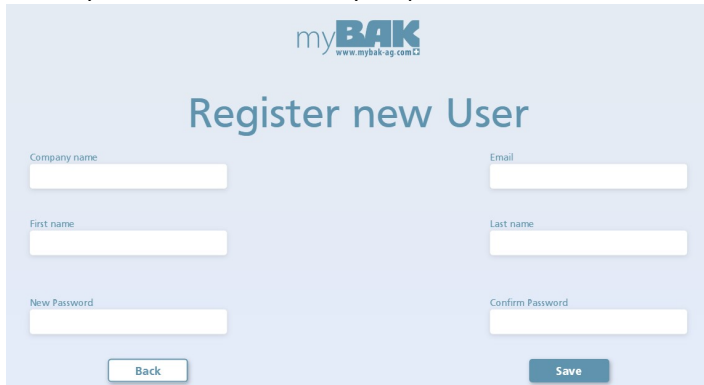
## MYBAK APP

Download the **myBAK-APP** in the app store from apple or in the google play store or visit the web application **www.mybak-ag.com**. Click on register new user, a form is opening up. Fill out all the blank spaces and confirm with save.

You will receive an e-mail with a link. Please confirm your e-mail by clicking on this link. From now on you can log in with your e-mail address and your password.

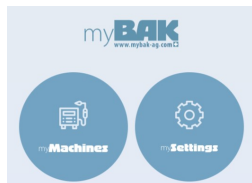


The login screen features the myBAK logo at the top. Below it, the text "Log in" is prominently displayed. A welcome message reads "Welcome back. Now get in here!". There are two input fields: "Email" with the placeholder "yourname@bak-ag.com" and "Password" with a masked field "\*\*\*\*\*". A blue "Log in" button is at the bottom. Below the button are flags for Germany and the UK, with a "Register new user" link.



The registration screen features the myBAK logo at the top. Below it, the text "Register new User" is prominently displayed. There are four input fields: "Company name", "Email", "First name", and "Last name" in the top row; "New Password" and "Confirm Password" in the bottom row. A "Back" button is located below the first two fields, and a "Save" button is below the last two fields.

Under **myMachines** you can manage all your BAK tools that are equipped with a GPS.



Serial number: BAK-Serial number of the machine  
 IMEI: IMEI of the built in GPS tracker  
 Commissioning: Date of initial startup of your machine



To add a new machine, click on this button



Now fill in the serial number of your machine in the search button and click search.

## New Machine

Back

Search

The wanted machine is shown and can be added with the button link.

**Important:** Every serial number can only be linked to an account once.

New Machine

# 156156165189

Serial number  
11384819

Commissioning  
2020-12-28

Protocol  
2020-12-28

Back

Link

Serial number	IMEI	Commissioning	Protocol	Action
2053999	0868450040534255	18.01.2021	18.01.2021	📍 ✎ 🗑️

With a click on symbol you open the map with the last known location of the machine. The machine will send a signal once it's plugged in and has power. After it's turned off it will send a signal for approx. 1-2 hours more.

If you have questions, comments or feedback regarding the app please contact [mybak@bak-ag.com](mailto:mybak@bak-ag.com)

A more detailed manual regarding the app is available upon request.

## **ASSISTANCE AND SUPPORT**

The BAK group and its authorized service centers offer free support and assistance in the area of applications technology. Our specialists will be pleased to help you.

### **Customer service and orders:**

BAK Technology AG  
Industriestrasse 6  
CH-6064 Kerns/Switzerland  
Telephone: (0041) 041 661 22 50  
Telefax: (0041) 041 661 22 51  
E-Mail: info@bak-ag.com

## **ACCESSORIES**

Art.-no. 6601428	Additional weight
Art.-no. 6601438	Bitumen kit 80mm, 230V
Art.-no. 6601441	Bitumen kit 80mm, 400V
Art.-no. 6601439	Bitumen kit 100mm, 230V
Art.-no. 6601442	Bitumen kit 100mm, 400V
Art.-no. 5201001	Metal case

Get the best results by using BAK-accessories and spare parts.  
Please refer to our brochures for additional information.

## **SERVICE AND REPAIR**

Repairs have to be carried out exclusively by BAK authorized service centers.

## **SHIPPING**

For repairs, please return the machine appropriately packed for transport to your next BAK service center.

### **Shipping to CUSTOMER ACCOUNT**

Technical modifications reserved. In case of doubt, consultation with BAK is required.  
Images and drawings may deviate from the original. Changes reserved.

## TRANSPORT – HANDLING - STORAGE

### Transport:

The automatic welding machine is packed appropriately and must be protected from moisture.

### Handling:

The shipment must be checked if complete and for transport damage. In the event of transport damage, the defect must be confirmed in writing at the time of the delivery by the carrier. The seller must be promptly informed in writing!

### Storage:

In the case of temporary storage, the welding machine should be kept packed and must be protected from moisture. In the case of damage resulting from improper storage, no warranty claim will be honored.

## DISPOSAL




Power tools, accessories and packaging should be sorted for environmental friendly recycling.

### **Do not dispose power tools together with household waste!**

Only EU countries: According to the European Directive 2012/19/EU on waste electrical and electronic equipment and its incorporation into national law, power tools that are no longer operational must be separately collected and sent to be environmental friendly recycled.

## TECHNICAL DATA

		<b>LarOn 21</b>
<b>Voltage</b>	<b>V</b>	230/400
<b>Frequency</b>	<b>Hz</b>	50/60
<b>Nominal power</b>	<b>W</b>	3600/4600
<b>Power consumption max.</b>		4600/5700
<b>Temperature</b>	<b>°C</b>	20 – 620
<b>Drive</b>	<b>m/min</b>	0.5-21
<b>Dimensions</b>	<b>mm (L x B x H)</b>	610x410x320
<b>Weight without weights</b>	<b>kg</b>	37
<b>Weight with weights</b>	<b>kg</b>	42
<b>Conformity symbol</b>	<b>CE</b>	
<b>Protection type I</b>		
Other voltages on request.		