

# Semi-automatic welding machine type MicOn / MicOn E type MicOn / E digital

## OPERATING MANUAL



**SAFETY**

**Danger to life** when opening the device as live components and connections are exposed. Unplug the device before opening it.



**Danger of fire and explosion** if the device is used incorrectly. Demonstrate the necessary caution when using the welding machine near combustible materials. Never use the device in inflammable areas.

**Danger of burns**

Do not touch the hot air device when it is still hot. Let the device cool down.



Connect the device to a **socket with protective earth conductor**. Any interruption of the protective earth conductor within or outside the device is dangerous! Only use extension cables with protective earth conductor and a minimum diameter of 2.5 mm<sup>2</sup>.



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

Consult your local electricity supply board if necessary.



For personal protection, the device must be connected to a **residual current circuit breaker** before using it on construction sites.



**Do not leave the device unobserved.** Hot air radiation of the hot air device may ignite combustible materials. Heat may reach inflammable materials that are not visible or obvious.

The tool must **not be used by children** or people with limited physically, sensory or mental ability. Children must be supervised to prevent that they play with the tool.



**Protect the device from damp and wet!**

**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 honour 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 MicOn is a semi-automatic welding machine for overlap welding of membranes.

- Type of seam 30mm or 40mm

## DESCRIPTION OF FUNCTIONS

### Heating system:

The hot air temperature is stepless adjustable and electronically controlled.

### Drive:

The drive system is stepless adjustable and electronically controlled. The speed is visible in the display.

### Welding pressure:

The welding pressure has to be given to the machine manually by the welder with pushing the press-button.

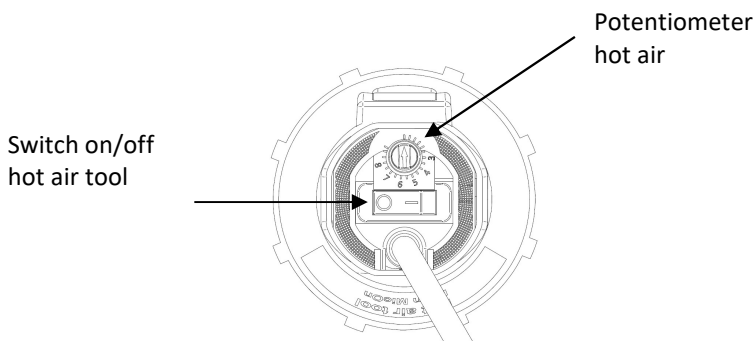
## WELDING PARAMETERS

### Attention:

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

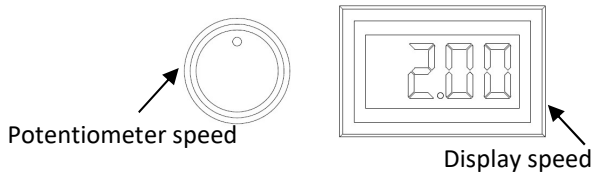
### Welding temperature

The welding temperature is adjusted with the potentiometer on the hot air tool. At the digital version, the actual and set temperature is shown in the display.



## Welding speed

Adjust the welding speed according to type and thickness of material and outside temperature with the potentiometer.



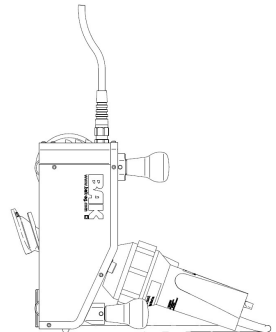
## WELDING

### Welding preparation

- Laying of material:
- Make sure that the surfaces of geomembrane liners, above and below, are cleaned, as well as between the overlap
- Mains supply at least 3kW (generator) supplied with an RCCB (Residual Current Circuit Breaker)

### Operating conditions

- Do not run the machine if power cord or plug is damaged. Damaged power cords must be changed by professional staff
- Put machine to stand by position (see picture beside)
- Connect the tool to the mains, drive starts



### Welding procedure

- Adjust speed and temperature (see page no. 4/5)
- Wait until the hot air tool has reached the adjusted temperature (approx. 5 Minutes)
- Guide the semi-automatic welding machine onto the overlapped geomembrane liner or film, position the upper membrane at the limit stop
- Give welding pressure by hand by pushing the press-button or on the guidance help.
- Check the welded seam (wash/seam thickness reduction), eventually adjust the welding speed with the potentiometer
- Guide the semi-automatic welding machine along the overlap, the factory-made stop makes sure that the welding seam is even to the overlap
- Pull tool out and put into stand by position

## ASSEMBLY

**Attention:**

Always unplug the device before working on it!

### Changing the heating element (only when the device has cooled down)

- Loosen four screws at the flange of the nozzle
- Pull off the nozzle
- Pull off the mica tube (careful, fragile)
- Remove the gasket
- Pull off the defective heating element
- Insert the new heating element - observe marking, voltage and power rating
- Slide on the mica tube
- Slide on the gasket and position the boreholes
- Slide on the nozzle and fix with 4 screws
- Readjust the nozzle

### MAINTENANCE

- Clean the nozzle with a wire brush at the end of welding
- After use, always check that the mains cable and 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 of the air flow 600 °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.

## SAFETY SYMBOLS AND STANDARDS

Existing risks are pointed out with the following warning symbols:

Risk of crushing	Risk of burns
	

The operator is responsible for the compliance with safety related standards.

Before the machine is commissioned, the operating personnel must be instructed with respect to these standards.

### OPERATIONAL SAFETY

The semi-automatic welding machine is manufactured in accordance with the recognised 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 semi-automatic welding machine is the nozzle which can heat up to temperatures of 600°C. It is recommended to wear heat protective gloves.



## ASSISTANCE AND SUPPORT

The BAK group and its authorised service centres 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  
Telefon: (0041) 041 661 22 50  
Telefax: (0041) 041 661 22 51  
E-Mail: info@bak-ag.com

## ACCESSORIES

Art.-no. 6600319 Guidance help MicOn  
In order to use the guidance help, push it over the press-buttons and fix it with the screws that are delivered with the accessory.

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

## SERVICE AND REPAIR

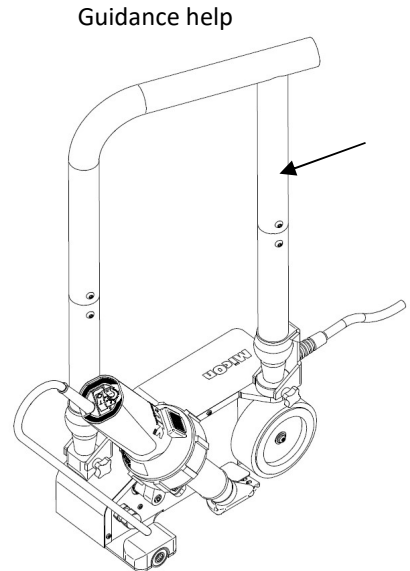
Repairs have to be carried out exclusively by BAK authorised service centres.

## SHIPPING

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

### 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 semi-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 honoured.

## 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

Technical data		MicOn
Voltage	V	120/230
Frequency	Hz	50/60
Power consumption	W	1650/2100
Temperature	°C	20 – 600
Drive	m/min	max. 4
Dimensions	mm (l x w x h)	400x170x330
Weight with 5 m cable	kg	6.5
Conformity symbol	CE	
Protection type I		
Other voltages on request.		