

Automatic welding machine type RoofOn Multi

OPERATING MANUAL



SCOPE OF DELIVERY

Content of package:

- 1 Automatic welding machine type RoofOn Multi
- 1 Guide handle
- 1 Starting plate
- 1 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 mm².



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

Maintain the maximal allowed impedance $Z_{\max} = 0.301 \Omega + j 0.188 \Omega$. Consult your local electricity supplier 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 from 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

This device is an automatic welding machine for overlap welding of roofing membrane.

DESCRIPTION OF FUNCTIONS

Heating system:

The hot air temperature is stepless adjustable and electronically controlled. According to the thickness of the material, the position of the nozzle can be adjusted stepless.

Welding pressure:

The welding pressure can be changed by adding or reducing weight.

Drive:

The drive is stepless adjustable and electronically controlled. The control system is designed in a way that the set speed remains constant, independent of the load.

Application:

The tool can be used for Attica, eaves flashing, close to the edge and for normal overlap welding.

Safety:

The tool has a automatic restart safety system, which means that the tool will be automatically turned off in case of a power failure. It has to be switched on manually again.

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 device 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 device.
- Because of the enormous fire danger, the operating personnel must be specially briefed and regularly instructed.
- Fire can occur if the device is not used carefully.
- Do not leave the device 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 device must not be used in explosive atmospheres.
- Heat may reach inflammable materials that are not 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 650 °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)
- The device bears the protection mark IP20 and must therefore be protected from damp and rain.
- When using the device 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.
- The welding machine can be operated up to a maximum incline or slope of 30°.
- Warning: Danger of poisoning! While processing thermoplastics or similar material, gases occur which can be aggressive or poisonous. Avoid inhaling fumes even if they seem to be harmless. Make sure the workplace is well ventilated or wear respiratory protection.

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 to these standards.

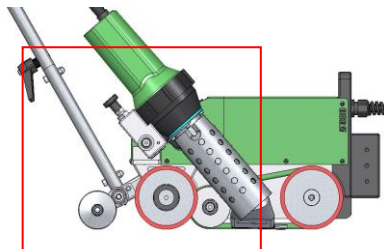
OPERATIONAL SAFETY

The 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 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 welding machine is the nozzle which can heat up to temperatures of 650 °C. It is recommended to wear heat protective gloves. There is a risk of crushing when swivelling the nozzle.



Danger of burns in the working area

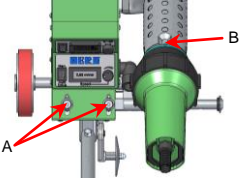
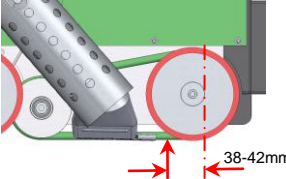
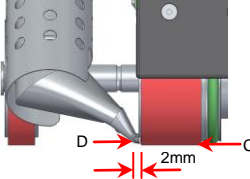
OVERLAP WELDING MACHINE BASIC ADJUSTMENT

Basic adjustment:

Perform adjustments only in cold condition (danger of burns!).

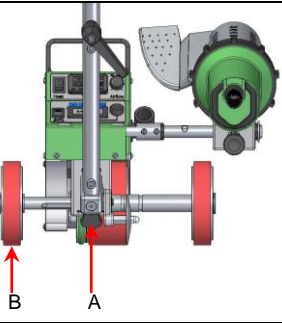
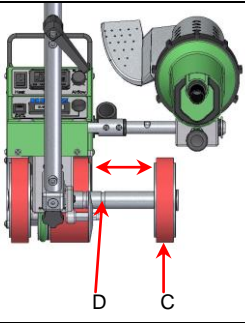
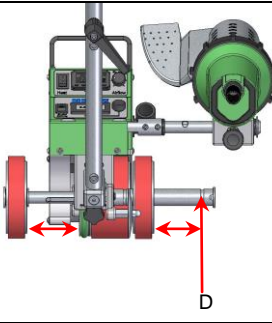
Nozzle adjustment:

Loosen the screws on the device frame in order to change the configuration of the nozzle.

		
<p>Loosen the screws with allen key SW4.</p>	<p>Adjust distance from nozzle to pressure roller.</p>	<p>Loosen the screws (B) and move the nozzle for the nozzle tip (C) to touch the underground and area (D) is approx. in 1mm distance from the underground.</p>

Tighten all screws (A/B) afterwards!

Guide roller adjustment:

		
<p>Standard</p>	<p>Close to the edge</p>	<p>Attica</p>

Adjustment

Loosen screw (A) to adjust roller (B). Afterwards tighten again.

Move roller (C) with pressure or tension in the right direction until it snaps into the next locking (D).

WELDING PARAMETERS

Caution: Before any welding operation, a test weld should be performed to determine the welding parameters.

Welding temperature:

The welding temperature is adjusted with a potentiometer or control unit. Do not start welding before the set temperature has been reached.

Welding speed:

The welding speed is adjusted using a potentiometer or control unit. The drive starts automatically when the welding tool is swivelled in. The welding speed is adjusted with the potentiometer or control unit depending on the plastic film, geomembrane liner or weather conditions.

Welding pressure:

The welding pressure is directly applied onto the pressure roller by the weight of the machine.

WELDING

Operating conditions:

- Maintain the maximum allowed network impedance ($Z_{\max} = 0.301 \Omega + j 0.188 \Omega$) and consult your local electricity supply board if necessary.
- Check the configuration of the nozzle.
- The mains connection must conform to ICE 60364 as well as to national standards.
- Connect the device to the grid. The voltage rating must correspond to the specifications on the nameplate.
- When using extension cords, a minimum diameter of the cable must be observed. Cable length up to 25 m, diameter 2.5 mm² (for automatic welding machines with 120 V, we recommend a diameter of 4.0 mm²).

Welding procedure:

- Adjust the welding parameters.
- The welding temperature has to be reached.
- Position the welding machine on the overlapping geomembrane liners or plastic films.
- Align the guide roller to the overlap.
- Lower the hot air system and slide the nozzle between the overlapping geomembrane liners or plastic films. The device will start automatically.
- Guide the welding machine along the overlap. Always observe the position of the guide roller.
- After welding, slide out the nozzle and raise it.
- Turn off the heating with the respective switch to cool down the nozzle.
- Switch off the device with the main switch and disconnect from mains supply.

ASSISTANCE AND SUPPORT

The BAK group and its authorised service centres offer free support and assistance in your application.

Our specialists will be pleased to help you.

Customer service and orders:

BAK Thermoplastic Welding 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

Available accessories:

Additional weight (5232071.1)

Contour welding establishment (5232550)

Transport case (5232551)

The automatic welding machines can either be supplied with the accessories directly assembled or the assembly can be easily carried out by the operator himself.

Optimum results will be achieved when BAK accessories and spare parts are used. Please refer to our brochures for additional information.

SERVICE AND REPAIR

The welding machine should be checked by an authorised service centre approx. every 1000 operating hours.

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

SHIPPING

For repairs, please return the device 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.

ASSEMBLY



ATTENTION

ALWAYS unplug the device before working on it.

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

- 1.1. Swivel out and lock the hot air system
- 1.2. Loosen four screws at the flange of the nozzle
- 1.3. Pull off the nozzle
- 1.4. Pull off the mica tube (careful, fragile)
- 1.5. Remove the gasket
- 1.6. Pull off the defective heating element
- 1.7. Insert the new heating element - observe marking, voltage and power rating
- 1.8. Slide on the mica tube
- 1.9. Slide on the gasket and position the boreholes
- 1.10. Slide on the nozzle and fix with 4 screws
- 1.11. Readjust the nozzle as described under **basic adjustments** on page 4 - 6.

MAINTENANCE

- Clean the welding nozzle with a wire brush (5201330).
- Check power cable and plug for electrical and mechanical damage. 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.
- The sliding axes as well as all movable parts have to be cleaned regularly and be greased with acid-free oil from time to time.

TRANSPORT – HANDLING – STORAGE

Transport:

The welding machine is packed appropriately and must be protected from moisture. We recommend the use of the suitable tool box. For the transport of the machine the additional weight (10) should be removed for safety reasons.

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.

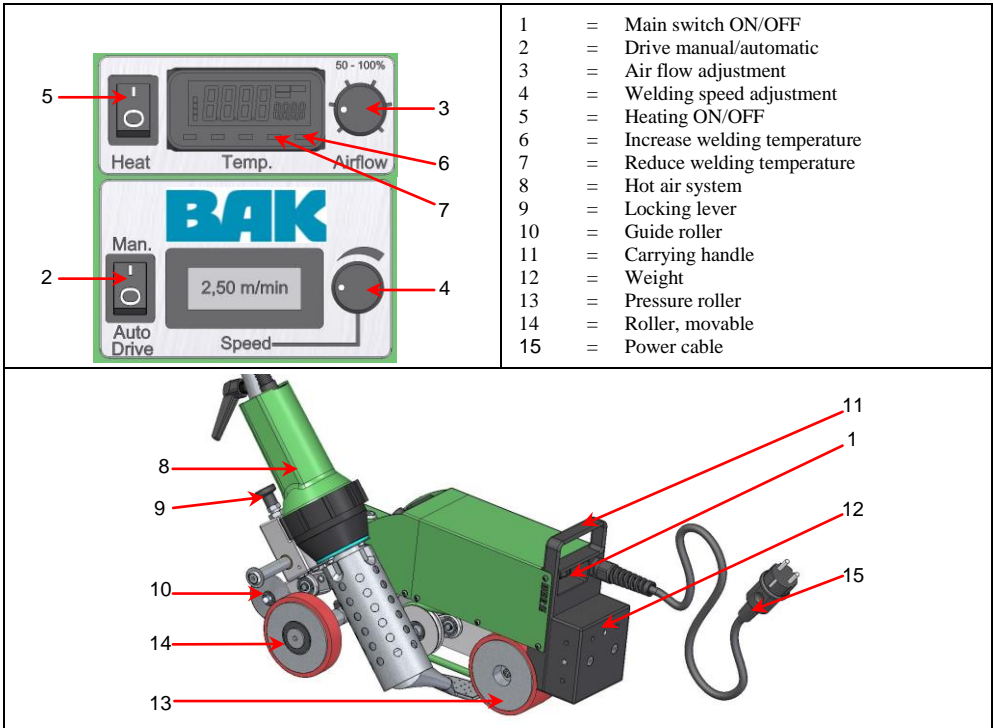
Do not dispose power tools together with household waste!

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.

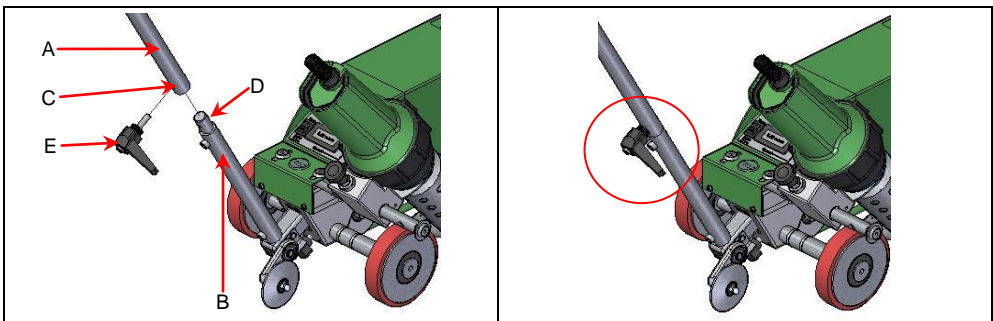
TECHNICAL DATA

Technical Data		RoofOn Multi	
Voltage	V	120	230
Frequency	Hz	50 / 60	
Power consumption	W		
Max. power input	A	22,5	15,0
Temperature	°C	20 – 600	
Drive	m/min	0.0-6.0	
Max. air flow (20 °C)	l/min	500	
Noise level (EN ISO 11203)	dB(A)	64	
Dimensions	mm (L x W x H)	500x330x950	
Weight with 5 m cable	kg	approx. 21.0	
Protection class		IP20	
Conformity symbol			
Protection type I			

DEVICE DESCRIPTION



ASSEMBLY INSTRUCCION FOR GUIDE BAR



Assembly:

Put on upper part of guide bar (A) to lower part of guide bar (B) and place hole (C) above threads (D). Screw in clamping lever (E) and tighten.

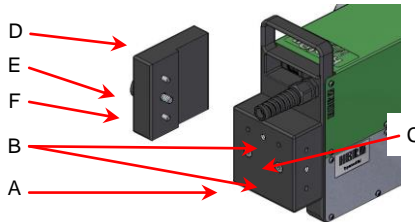
Dismantling:

Loosen clamping lever (E) and unscrew. Remove upper part of guide bar.

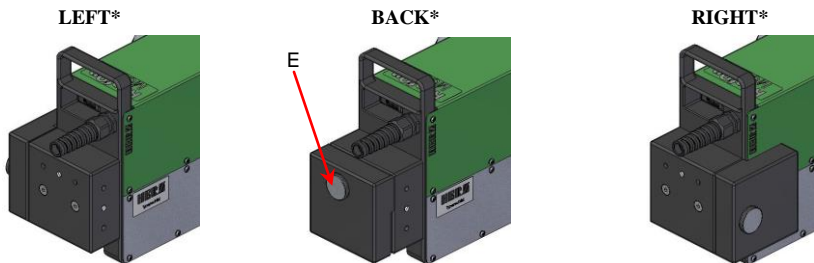
ASSEMBLY INSTRUCTION ADDITIONAL WEIGHT

Content: **Art.-no. 5232071.1**
Additional weight
Screw
Assembly instruction

Basis weight (A) comes with two guide borings (B) and one thread M6 (C) at the front and the sides. Additional weight (D) with one screw (E) and two guide pins (F).



- 1.1. Switch off the device, unplug it and let it cool down if necessary.
- 1.2. Put the guide pins (F) from the additional weight (D) into the guide borings (B) of the basis weight. Screw in the screw E into thread (C) and tighten.



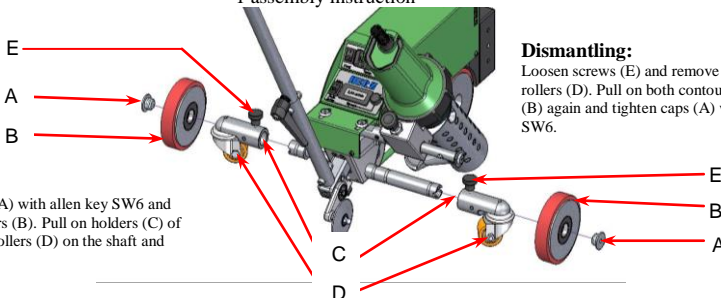
* Sight in driving direction of the welding machine!

1.3. Dismantling additional weight:

Loosen screw (E) and remove additional weight.

ASSEMBLY INSTRUCTION CONTOUR WELDING SETTINGS

Inhalt: **Art.-no. 5232550**
2 contour guide rollers
1 allen key
1 assembly instruction

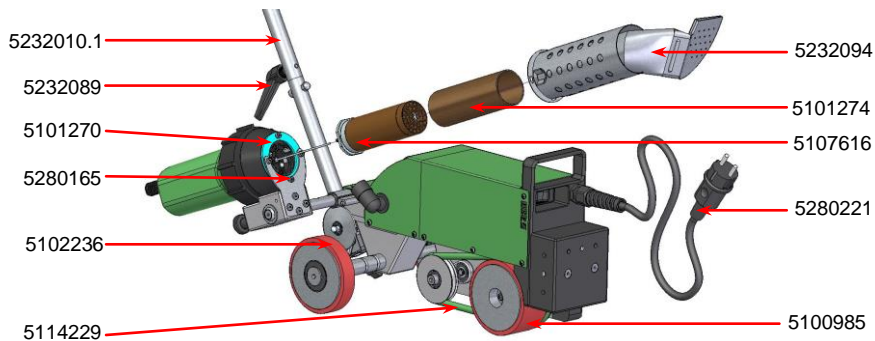


Assembly:
Loosen both caps (A) with allen key SW6 and remove guide rollers (B). Pull on holders (C) of the contour guide rollers (D) on the shaft and tighten screws (E).

Dismantling:

Loosen screws (E) and remove contour guide rollers (D). Pull on both contour guide rollers (B) again and tighten caps (A) with allen key SW6.

DRAWING/SPARE PARTS LIST



Art.-no.	Description	Qty.
5230043	Overlap welding nozzle 40mm	1
5101274	Mica tube	1
5107616	Heating element	1
5101270	Gasket 70x48x4	1
5280165	Cheese head screw M4x12	4
523010.1	Guide bar upper part incl. clamping lever	1
5232089	Clamping lever	1
5102236	Silicon rubber ring ø 62/82x22mm	1
5100985	Silicon rubber ring ø 62/82x51mm	1
5114229	Pressure belt	1
5280221	Power supply cord	1