

Automatic welding machine Typ ROOFON

RoofOn ,R' Edge



RoofOn



SCOPE OF DELIVERY

Content of package:

- 1 Automatic welding machine type RoofOn
- 1 Guide handle
- 1 Starting plate
- 1 Operating manual

SICHERHEIT



Danger of 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 supply board if necessary.



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

Formatiert



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.



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 GmbH. 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 GmbH. Any forms of reproduction or copying and electronic storage are prohibited.

INTENDED USE

This device is an automatic welding machine for overlap/tape welding of weld tarpaulin and the production of plastic film and coated fabrics.

Weld shape overlap: Welding lines with a width of 20, 30 or 40 mm are produced depending on the applicable configuration.

Weld shape tape: Tapes with a width of 40 or 50 mm are produced depending on the applicable configuration.

Weld shape protection against vandalism: A tape with integrated steel cable is welded on.

Weld shape measuring tape: A profiled tape is welded on for sealing an overlap welding line.

DESCRIPTION OF FUNCTIONS

Heating system:

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

Welding pressure:

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

Drive:

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

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 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 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 made of wood)
- 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 with respect 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 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 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 !!!

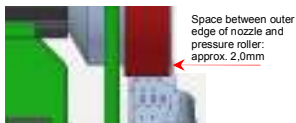
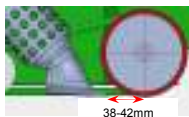
OVERLAP WELDING MACHINE BASIC ADJUSTMENT

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.
- Please refer to the following images for recommended adjustments:



Guide roller adjustment:



Space	for	welding line with
10mm	→	20mm
20mm	→	30mm
30mm	→	40mm

- Bring the welding machine into the right welding position.



Outside edge of the overlap, outside edge of the pressure roller and outside edge of the guide roller must form a line (see image).

WELDING PARAMETERS

Caution: Before any welding operation, a test weld should be performed so as 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 machine 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

Welding procedure:

- Adjust the welding parameters.
- The welding temperature must have been reached.
- **Weld shape overlap:**
 - 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.
- **Weld shape tape/protection against vandalism/measuring tape:**
 - Position the welding machine on the geomembrane liner or plastic film.
 - Position the guide roller at the joint or marking.
 - Lower the hot air system and slide the nozzle between geomembrane liner or plastic film and tape. The device will start automatically.
 - Guide the welding machine along the joint or marking. 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.

ASSISTANCE AND SUPPORT

The **HERZ** 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.

ACCESSORIES

Available accessories:

Additional weight (5230177), handle (5230077), running wheel relocation / edge roller (5230183).
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 **HERZ** accessories and spare parts are used.
Please refer to our brochures for additional information.

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.

INSTALLATION INSTRUCTIONS 8.0 and 9.0 ARE ENCLOSED WITH THE ACCESSORIES !!!

MAINTENANCE

- Clean the welding nozzle with a wire brush (5201330).
- Check power cable and plug for electrical and mechanical damage.

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 [HERZ](#) authorised service centres.

SHIPPING

For repairs, please return the device appropriately packed for transport to your next [HERZ](#) service centre.

!!! SHIPPING MUST BE PAID!!!

Technical modifications reserved. In case of doubt, consultation with [HERZ](#) is required. Images and drawings may deviate from the original. Changes reserved.

TRANSPORT - HANDLING - STORAGE

Transport:

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

Handling:

The shipment must be checked for completeness and 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 environmentally friendly recycling.

Do not dispose of power tools together with household waste!

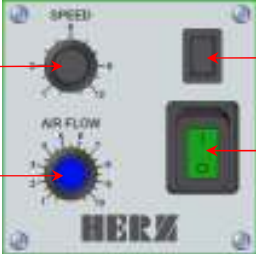
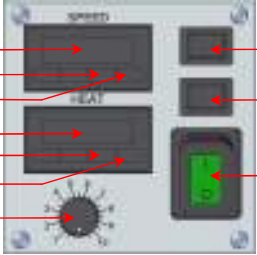
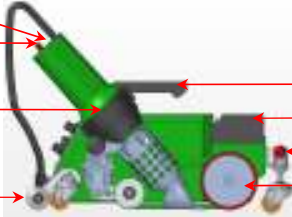
Only EU countries: According to the European Directive 2002/96/EC on waste electrical and electronic equipment and its incorporation into national law, power tools that are no longer operational must be separately collected and sent to be environmentally friendly recycled.

TECHNICAL DATA

Technical Data		RoofOn [*proximate]	
Voltage	V	120	230
Frequency	Hz	50 / 60	
Power consumption	W	2'700	3'400
Max. power input	A	22,5	15,0
Temperature	°C	20 – 600	
Drive	m/min	Standard 0,6 – 12,0 / Digital 0,0 – 12,0	
Max. air flow (20 °C)	l/min	500	
Noise level (EN ISO 11203)	dB(A)	64	
Dimensions	mm (L x W x H)	460 x 330 x 850	
Weight with 5 m cable	kg	ca. 14,5[*26,0]	
Protection class		IP20	
Conformity symbol			
Protection type I			

Other voltages on request.

DEVICE DESCRIPTION

Standard operating panel	Digital operating panel																																																						
 <p>Standard operating panel showing callouts 1, 2, 3, and 4. Callout 1 points to the main switch, 2 to the manual drive button, 3 to the air flow knob, and 4 to the speed knob.</p>	 <p>Digital operating panel showing callouts 1, 2, 3, 4.1, 4.1.1, 4.1.2, 5, 6.1, 6.1.1, 6.1.2, and 12. Callouts 1, 2, 3, and 12 point to the same components as in the standard panel. Callouts 4.1, 4.1.1, and 4.1.2 point to the digital speed display and its adjustment buttons. Callouts 5, 6.1, 6.1.1, and 6.1.2 point to the digital temperature display and its adjustment buttons.</p>																																																						
 <p>Device with callouts 5-12. Callouts 5, 6, 7, 8, 9, 10, 11, and 12 point to various mechanical and electrical components of the device.</p> <table border="0"> <tr> <td>1</td> <td>=</td> <td>Main switch ON / OFF</td> </tr> <tr> <td>2</td> <td>=</td> <td>Manual drive ON (only when button is pressed)</td> </tr> <tr> <td>3</td> <td>=</td> <td>Air flow adjustment (50 - 100 %)</td> </tr> <tr> <td>4</td> <td>=</td> <td>Welding speed adjustment (0.6 - 12.5 m/min)</td> </tr> <tr> <td>4.1.</td> <td>=</td> <td>Welding speed adjustment (0.6 - 12.5 m/min)</td> </tr> <tr> <td>4.1.1.</td> <td>=</td> <td>Reduce speed</td> </tr> <tr> <td>4.1.2.</td> <td>=</td> <td>Increase speed</td> </tr> <tr> <td>5</td> <td>=</td> <td>Heating ON / OFF</td> </tr> <tr> <td>6</td> <td>=</td> <td>Welding temperature adjustment</td> </tr> <tr> <td>6.1</td> <td>=</td> <td>Welding temperature adjustment</td> </tr> <tr> <td>6.1.1</td> <td>=</td> <td>Reduce temperature</td> </tr> <tr> <td>6.1.2</td> <td>=</td> <td>Increase temperature</td> </tr> <tr> <td>7</td> <td>=</td> <td>Hot air system</td> </tr> <tr> <td>8</td> <td>=</td> <td>Guide roller</td> </tr> <tr> <td>9</td> <td>=</td> <td>Carrying handle</td> </tr> <tr> <td>10</td> <td>=</td> <td>Weight (optional additional weight)</td> </tr> <tr> <td>11</td> <td>=</td> <td>Lifting device</td> </tr> <tr> <td>12</td> <td>=</td> <td>Pressure roller</td> </tr> </table>		1	=	Main switch ON / OFF	2	=	Manual drive ON (only when button is pressed)	3	=	Air flow adjustment (50 - 100 %)	4	=	Welding speed adjustment (0.6 - 12.5 m/min)	4.1.	=	Welding speed adjustment (0.6 - 12.5 m/min)	4.1.1.	=	Reduce speed	4.1.2.	=	Increase speed	5	=	Heating ON / OFF	6	=	Welding temperature adjustment	6.1	=	Welding temperature adjustment	6.1.1	=	Reduce temperature	6.1.2	=	Increase temperature	7	=	Hot air system	8	=	Guide roller	9	=	Carrying handle	10	=	Weight (optional additional weight)	11	=	Lifting device	12	=	Pressure roller
1	=	Main switch ON / OFF																																																					
2	=	Manual drive ON (only when button is pressed)																																																					
3	=	Air flow adjustment (50 - 100 %)																																																					
4	=	Welding speed adjustment (0.6 - 12.5 m/min)																																																					
4.1.	=	Welding speed adjustment (0.6 - 12.5 m/min)																																																					
4.1.1.	=	Reduce speed																																																					
4.1.2.	=	Increase speed																																																					
5	=	Heating ON / OFF																																																					
6	=	Welding temperature adjustment																																																					
6.1	=	Welding temperature adjustment																																																					
6.1.1	=	Reduce temperature																																																					
6.1.2	=	Increase temperature																																																					
7	=	Hot air system																																																					
8	=	Guide roller																																																					
9	=	Carrying handle																																																					
10	=	Weight (optional additional weight)																																																					
11	=	Lifting device																																																					
12	=	Pressure roller																																																					

ASSEMBLY INSTRUCTIONS FOR ACCESSORY NO. 8: ADDITIONAL WEIGHT

Content: Art. no. 5230177
Additional weight
Screw M6x 50mm
Assembly instructions

Required tools: Allen keys SW3/5

8.0. Assembly instructions for additional weight:

8.1. Switch off the device, unplug it and let it cool down if necessary.



8.2. Screw out the M6x10 threaded bolt (Allen SW3).



8.3. Add additional weight and align it with the threaded bore hole of the weight below.



8.4. Screw on the M6x50 screw (Allen SW5) and fasten.

8.5. In order to remove an additional weight, perform the steps in reverse order.

ASSEMBLY INSTRUCTIONS FOR ACCESSORY NO. 9: RUNNING WHEEL RELOCATION / EDGE ROLLER

Content: Art. no. 5230183

Running wheel relocation / edge roller complete
Assembly instructions

Required tools: Allen key SW6

9.0. Running wheel relocation / edge roller assembly:

- 9.1. Switch off device
- 9.2. Unplug device
- 9.3. Lay device on its side

9.4. Remove Allen screw of the guide handle (SW6)



9.5. Assemble the guide handle **AND** running wheel / edge roller (SW6)



9.6. Fasten screw

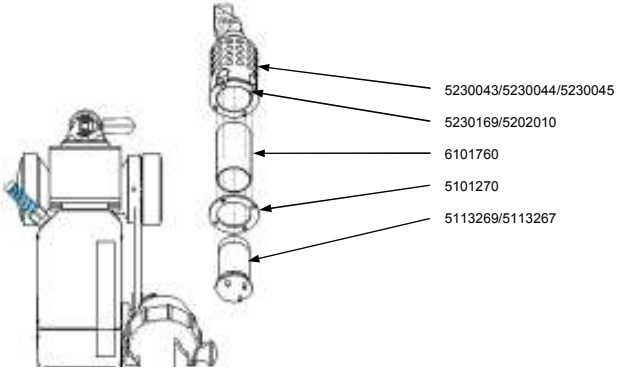
9.7. Put device back on its rolls

9.8. In order to remove the running wheel / edge roller, perform the steps in reverse order

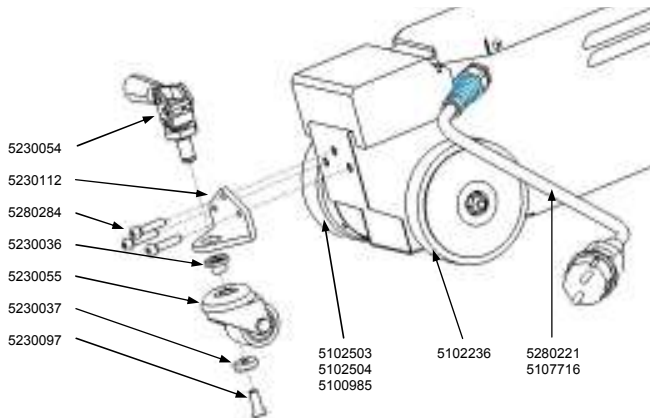
Fasten all screws and nuts !!!

SPARE PARTS DRAWINGS

Heating element and tube adapter

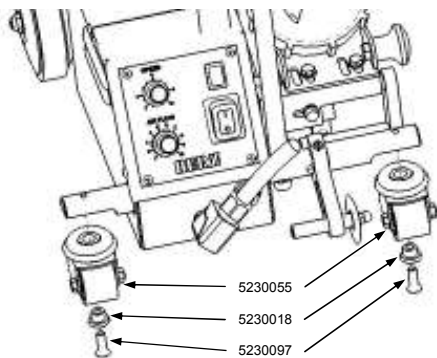


Lifting device



SPARE PARTS DRAWINGS

Guide rollers



SPARE PARTS LIST

Art. no.	Description	Quantity (parts)
5230043	Overlap welding nozzle 20 mm	1
5230044	Overlap welding nozzle 30 mm	1
5230045	Overlap welding nozzle 40 mm	1
5202010	Rounded head screw M4x12, Torx	1
5230169	Rounded head screw M4x16, Torx	3
6101760	Mica tube $\varnothing = 47, 6 \times 95$ mm	1
5101270	Heating element gasket	1
5113267	Heating element 120 V, 2600 W	1
5113269	Heating element 240 V, 3300 W	1
5230054	Push rod tightener for lifting device	1
5230112	Fastening angle for lifting device	1
5280284	Rounded head screw M5x20, Torx	3
5230036	Centring, push rod for lifting device	1
5230055	Guide roller	3
5230037	Centring disc, push rod for lifting device	1
5230018	Wheel centring for guide roller	3
5230097	Countersunk screw M6x20, Allen	3
5102503	Silicon rubber ring, pressure roller, 20 mm	1
5102504	Silicon rubber ring, pressure roller, 30 mm	1
5100985	Silicon rubber ring, pressure roller, 40 mm	1
5102236	Silicon rubber ring, drive roller	1
5280221	Power cable 3x1.5 mm ² with Schuko plug	1
5107716	Power cable 3x2.5 mm ² , 5 m with end sleeves (for 120 VAC version)	1