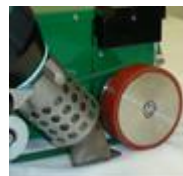


Overlap welding machine type PLANON / PLANON Digital

OPERATING MANUAL



Overlap 20/30/40mm



Custom tape



Vandalism protection



Tape 40/50mm

SECURITY WARNING



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



Danger of fire and explosion in case of incorrect use of the welding machine especially near combustible materials. Never use the welding machine in hazardous or inflammable areas. Heat can reach combustible materials which are hidden. Do not point the hot air stream onto the same position for a long time.



Danger of burns

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



Connect the tool to a socket outlet with protective earth conductor. Any interruption of the protective earth conductor within or outside the tool is dangerous! Use only extension cables with a protective earth conductor!



The voltage rating stated on the tool should correspond to the mains voltage. Maintain the maximal allowed impedance $Z_{\max} = 0.301\Omega + j 0,188\Omega$. Consult your local electricity board if necessary.



For personal protection, we strongly recommend to connect the tool to a RCCB (Residual Current Circuit Breaker) before using it on construction sites.



Do not leave the tool unobserved. 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 tool 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

The PlanOn is an automatic welding machine for overlap welding to weld tarpaulin, membranes and coated fabrics.

Overlap seam: Welding seams can be conected in 20, 30 or 40mm width, depending on the particular equipment.

Tape seam: Bands can be conected in 40 or 50mm width, depending on the particular equipment.

Vandalism protection seam: Bands with an integrated steel rope can be welded on.

Custom tape seam: A profiled custom tape can be welded on to seal the overlap welding seam.

DESCRIPTION OF FUNCTIONS

Heating system:

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

Welding pressure:

The welding pressure can be changed by addition or reduction of weight.

Drive:

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

WARNING

- If the supply cable gets damaged, it has to be replaced by the manufacturer, the service centre or by a qualified person, to avoid danger.
- The tool must not be used by personnel with just little experience and/or lacking knowledge. Except when supervised by a qualified and for their safety responsible person or when advised how to use the tool. Children must not use the tool.
- Because of the enormous fire danger the operating personnel must be specially advised and regularly instructed.
- Fire can occur, if the machine is not used carefully.
- A fire extinguisher must be within reach in the work area.
- There is a great risk of fire, when the machine stops, because of any disturbance and the hot air tool is running (max. temperature of the air flow 600°C). Therefore, specific attention should be turned to the subsurface and the processing material.
- The machine must not be used on inflammable subsurface (e.g. housetops and floors made of wood)
- The tool must be protected from damp and wet because of its protection mark IP20.
- When using the machine on roofs and tables it could fall down because of its automatic drive. To avoid a fall, necessary arrangements must be made.
- The welding machine is able to operate up to a max. raise or fall of 30°.
- Warning: Danger of poisoning! While processing thermoplastics or similar material gases occur, which may be poisonous. Avoid inhaling the smoke, even if it seems to be harmless. Make sure the workplace is well ventilated or wear a dust mask.

SECURITY ADVICE

The following warning symbols show the existent risks:

Risk of crushing



Risk of burns



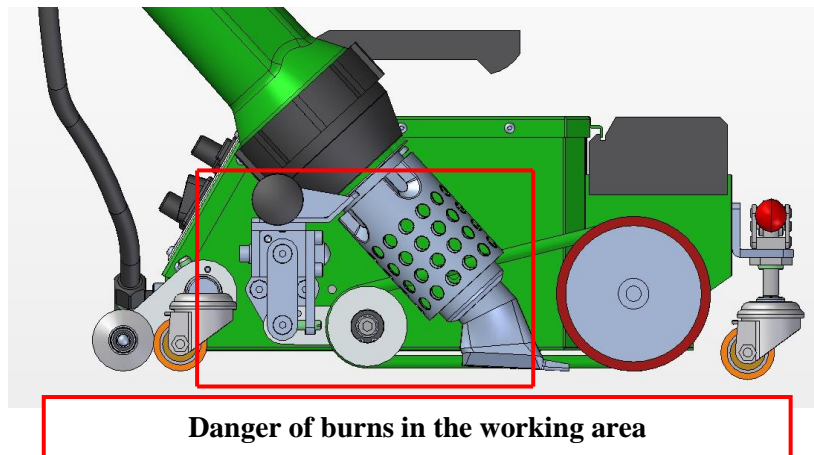
The operator is responsible for the compliance of the safety related standards.
Before starting up of the machine the operator must be instructed to these standards.

OPERATIONAL SAFETY

The welding machine is manufactured after generally accepted rules of technology.
At the same time, the latest safety standards have been regarded, so that work related risks for life and health of the operating personnel can be eliminated when the machine is used conventionally.

DANGER ZONE

The main danger zone of the welding machine is the nozzle which can be heated up to 600°C. It is suggested to wear heat protection gloves.
Swivelling in the nozzle can cause crushing.



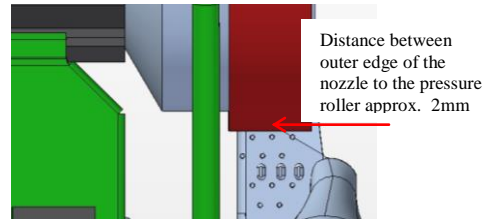
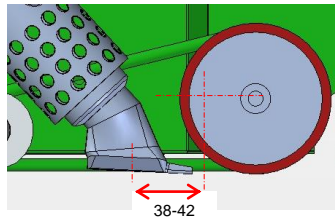
BASIC ADJUSTMENTS OVERLAP WELDING MACHINE

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

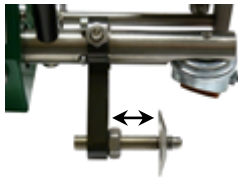
Nozzle adjustment:

Loosen the screws on the bracket to change adjustments on the nozzle.

See below drawings for the recommended adjustments:

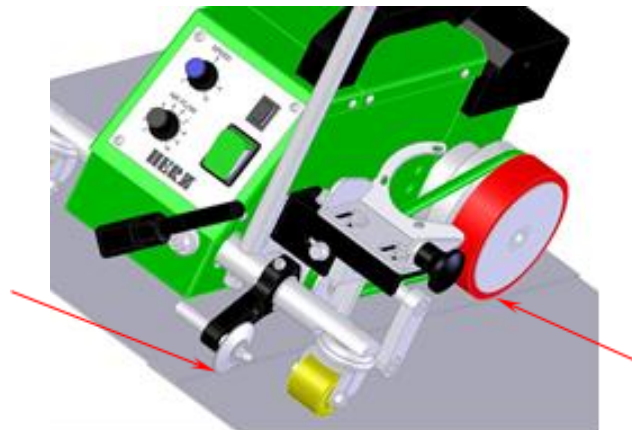


Guide roller adjustment:



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).

BASIC ADJUSTMENTS WELDING MACHINE TAPE/VANDALISM PROTECTION

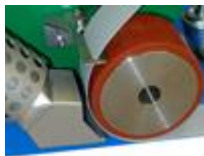
Perform adjustments only in cold condition (Danger of burns!).

Nozzle adjustment

Loosen the screws on the bracket to change adjustments on the nozzle.

See below drawings for the recommended adjustments:

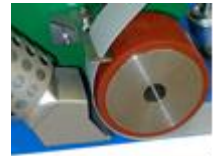
Adjust nozzle distance with 2 screws (C) to the pressure roller and to lower (D) and upper (E) stop Eron.



Distance between nozzle tip and middle of pressure roller
37-42mm

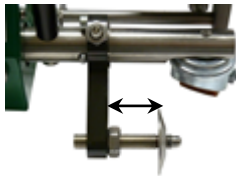


Distance between bottom line of nozzle tip and ground
2-7mm



Guide roller adjustment

Welding machine band/vandalism protection



Distance	at	Band width
12mm	→	40mm
12mm	→	50mm

BASIC ADJUSTMENTS CUSTOM TAPE

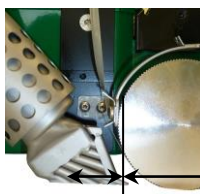
Perform adjustments only in cold condition (Danger of burns!).

Nozzle adjustment

Loosen the screws on the bracket to change adjustments on the nozzle.

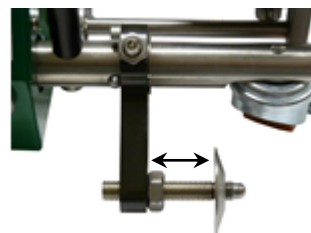
See below drawings for the recommended adjustments:

Nozzle adjustment



Distance between nozzle tip and middle of pressure roller
34-36mm

Guide roller adjustment



Distance 12mm

WELDING PARAMETER

Attention: Before the welding make a welding test to find out the welding parameters.

Welding temperature:

Adjust the welding temperature using the potentiometer. Do not start with the welding before the set temperature has been achieved.

Welding speed:

Adjust the welding speed using the potentiometer.

The drive starts automatically when the nozzle is swivelled in.

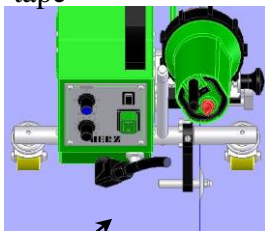
According to the geomembrane liner or film and climatic influence, adjust the welding speed using the potentiometer.

Welding pressure:

The self-weight of the machine transfers the welding pressure directly onto the pressure roller.

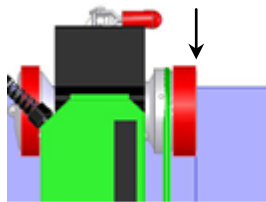
POSITIONING

Guide roller
tape



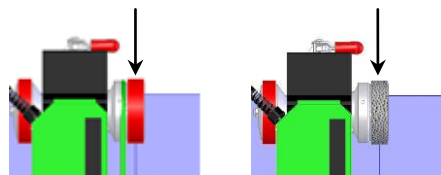
The guide roller should run along the edge of the overlap.

Overlap/Seam/Edge



The outer edge of the pressure roller and the edge of the overlap must be on top of each other.

Tape/Vandalism/Custom



The middle of the pressure roller must stand on the edge of the overlap.

WELDING

Operating condition:

- Maintain the maximal allowed impedance $Z_{\max} = 0.301\Omega + j 0,188\Omega$. Consult your local electricity board if necessary.
- Check adjustment of the nozzle.
- The mains supply must conform to ICE 60364 standard as well as to the national standards.
- Connect the machine to the mains. The voltage rating stated on the tool should correspond to the mains voltage.
- When using extension cords the minimum diameter of the cable must be observed. Cord length up to 25 m, cord diameter 2.5 mm². (On 120V we recommend cord diameter 4.0mm²).

Welding procedure:

- Adjust the welding parameters.
- The welding temperature must be reached.

Overlap seam:

- Position the welding machine on the overlapped geomembrane liner or film.
- Align the guide roller to the overlap.
- Lower the hot air tool and slide the nozzle between the overlapped geomembrane liner or film. The machine starts automatically.
- Guide the welding machine along the overlapping. Always watch the position of the guide roller.

Tape/Vandalism/Custom tape seam:

- Position the welding machine on the geomembrane liner or film.
 - Position the guide roller on the cant or mark.
 - Lower the hot air tool and slide the nozzle between the geomembrane liner and the band. The machine starts automatically.
 - Guide the welding machine along the cant or mark. Always watch the position of the guide roller.
-
- After welding lower and raise the hot air tool.
 - Turn off the heat with the switch on the hot air tool and allow the welding nozzle to cool down.
 - Switch off the tool with the main switch.

INFORMATION AND ADVICE

The BAK-Group and their authorized service centres offer free advice and assistance for your application.

Our experts will be pleased to assist you with your problems.

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:

Change of the welding seam width 20/30/40mm (5230155/5230156/5230157)

Hem kit (5230109)

Keder kit 20/30/40mm (5230189/5230192/5230193)

Guide handle (5230077).

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.

MOUNTING



ATTENTION

ALWAYS unplug the tool before mounting on the tool.

- 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.
- 2.0 Adjustment of the welding seam width to 20/30/40mm (see page)
- 3.0 Mounting of the hem kit (see page)
- 4.0 Mounting of the keder accessories/kit (see page)
- 5.0 Mounting of the guide handle (see page)

MAINTENANCE

Clean the welding nozzle with a wire brush (5201330).

Check if the mains cable and the plug are not electrically or mechanically damaged.

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.

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

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.

TRANSPORT – HANDLING – STORAGE

Transport:

The 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 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 environmental friendly recycled.

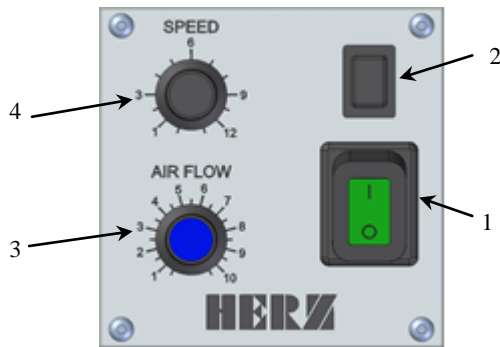
TECHNICAL DATA

		PlanOn		Tape/Vandalism	
Voltage	V	120	230	120	230
Frequency	Hz	50 / 60			
Power consumption	W	2'900	3'400	2'900	3'700
Max. power input	A	22,5	15,0	22,5	16,0
Temperature	°C	20 – 600			
Drive	m/min	Standard 0,6 – 12,5 / Digital 0,0 – 12,5			
Max. air flow (20°C)	l/min	500			
Noise level (EN ISO 11203)	dB(A)	64			
Dimensions	mm (L x B x H)	460 x 330 x 310		460 x 330 x 850	
Weight with 5m cable	kg	ca. 14,0		ca. 17,5	
Protection class		IP20			
Conformity symbol		CE			
Protection class I					

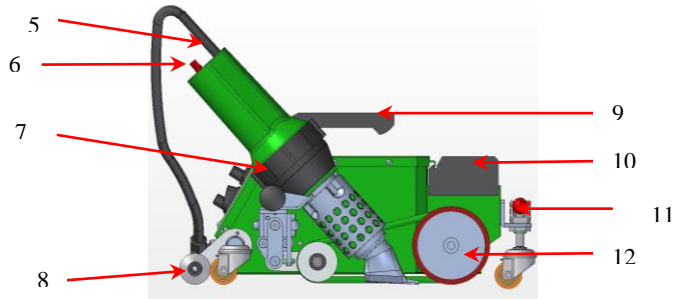
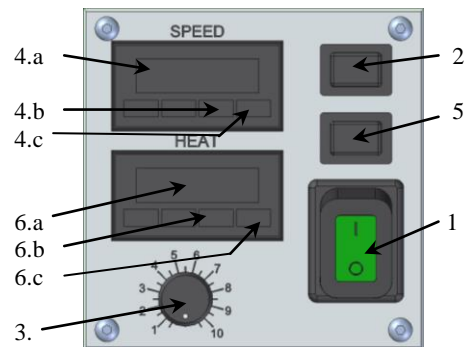
Other voltages on request.

DEVICE DESCRIPTION

Standard operating panel



Digital operating panel



1. Main switch ON / OFF
2. Manual drive ON (only when button is pressed)
3. Air flow adjustment (50-100%)
4. Welding speed adjustment (0,6-12,5m/min)
- 4.a Welding speed adjustment (0,0-12,5m/min)
- 4.b Reduce speed
- 4.c Increase speed
5. Heating On / OFF
6. Welding temperature adjustment
- 6.a Welding temperature adjustment
- 6.b Reduce temperature
- 6.c Increase temperature
7. Hot air system
8. Guide roller
9. Carrying handle
10. Weight (optional additional weight)
11. Lifting device
12. Pressure roller

ASSEMBLY INSTRUCTION FOR ACCESSORY NO. 2: ADJUSTMENT OF THE WELDING SEAM

Art.no. 5230155
Overlap nozzle 20mm
Pressure roller 20mm

Art.no. 5230156
Overlap nozzle 30mm
Pressure roller 30mm

Art.no. 5230157
Overlap nozzle 40mm
Pressure roller 40mm

Required tools: Torx wrench TX20, Allen key SW5, Spanner SW10/17

2.0. Adjustment of the welding seam width to 20 / 30 / 40mm:

2.1. Switch off the device

2.2. Unplug the tool

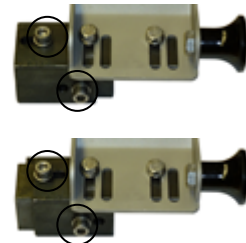
2.3. Disassemble the nozzle (Torx TX20)



2.4. Fix the required nozzle (20, 30 or 40mm)
(pay attention to position)



2.5. Adjust the holder to the
nozzle width
(SW10/Allen key SW5)



2.6. Remove the round belt
width



2.7. Disassemble the pressure roller (Allen key SW5)



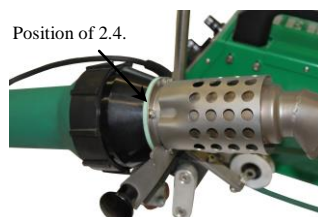
2.8. Fix the required (same
nozzle) pressure roller
(Fixation snaps)



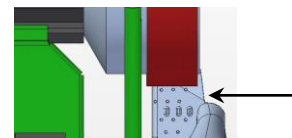
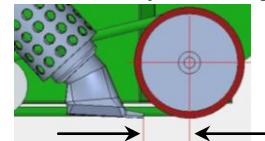
2.9. Fit the round belt



2.10. Mount the hand tool (Torx TX20)

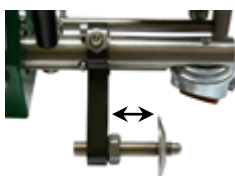


2.11. Adjustment see page 4



Distance between outer edge nozzle and pressure roller approx. 2.0mm

2.12. Adjust the guide roller (SW17)



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

Fasten all screws and nuts

BAK Thermoplastic Welding Technology AG

ASSEMBLY INSTRUCTION FOR ACCESSORY NO. 3: HEM KIT

Art.no. 5230109

Hem Kit

2 x Screw M4x20mm

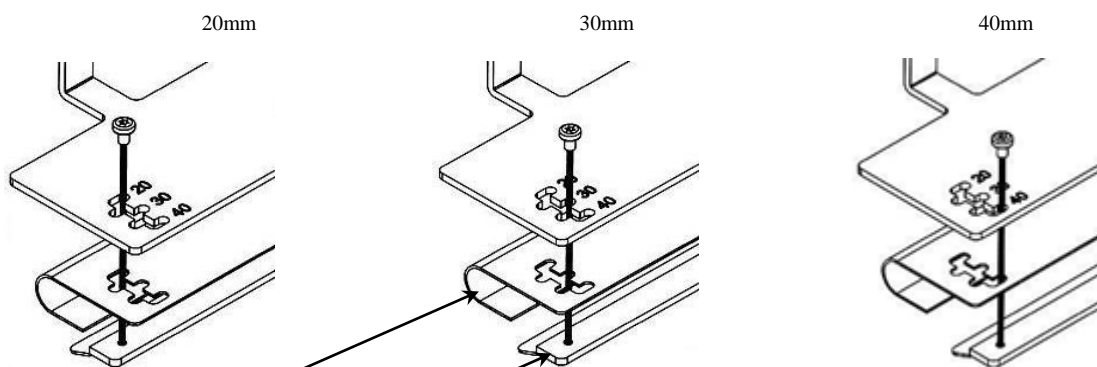
Required tools: Allen key SW4/5, Crosstip screwdriver

3.0. Adjustment of the hem kit:

3.1. Switch off the device

3.2. Unplug the tool

3.3. Adjust the hem width consistent with the nozzle width



3.4. Remove the round belt and the tensioner the (Allen key SW5)



Keep the parts

3.5. Place the start sheet (1) under the hem kit und fix it with enclosed screws

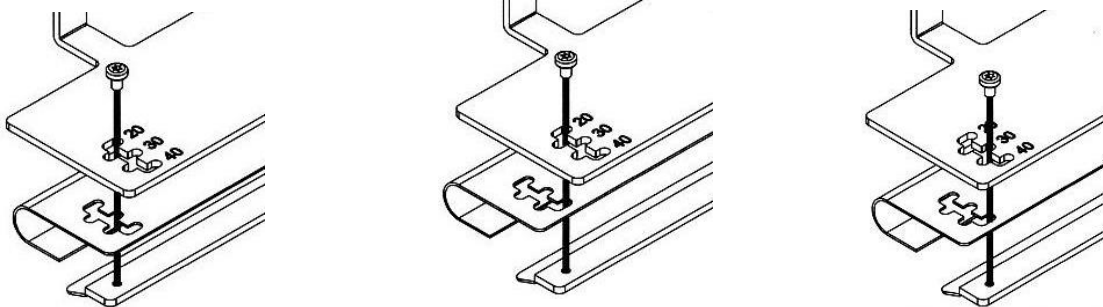


3.6. Adjustments pole pocket

20mm welding seam and 10mm pole pocket

20mm welding seam and 20mm pole pocket

30mm welding seam and 10mm pole pocket



Change the bended sheet and the block sheet!

Fasten all screws and nuts

ASSEMBLY INSTRUCTION FOR ACCESSORY NO. 4: KEDER ACCESSORY KIT

Art.no. 5230192

Art.no. 5230193

Basis is here a Planon overlap welding machine with 40mm seam width.

Keder roller 30mm

Keder roller 30mm
or 40mm

Required tools: Allen key SW3/5, Torx wrench T20, Spanner SW17

4.0. Adjustment of the keder accessory kit:

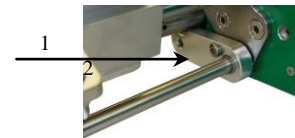
4.1. Switch off the device

4.2. Unplug the tool

4.3. Remove the round belt and the tensioner hole (Allen key SW5)



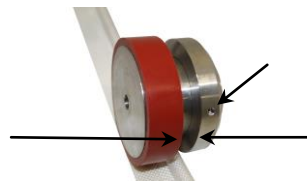
4.4. flap the roller backwards and fix it with the screw (12) into the bore (Torx T20)



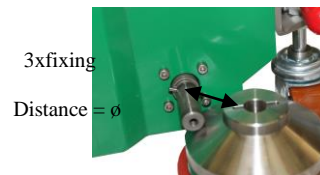
4.6. Remove the pressure roller or roller (Allen key AW5)



4.8. Adjust the diameter of the beading and fix the steel roller with 3 Set screws. (Allen key SW3)



4.7. Mount the desired keder compatibly to the nozzle width (Fixation snaps)



When the diameter of the keder is small, fix the tapered side of the rand disc to the pressure roller.

When changing the seam width the nozzle must be changed as well.

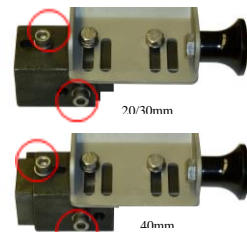
4.9. Remove the nozzle (Torx T20) the nozzle width



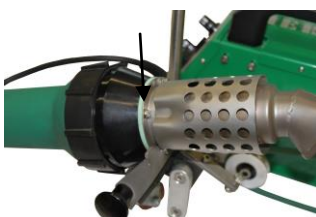
4.10. Attach and fix the desired nozzle (30 or 40mm) Consider position



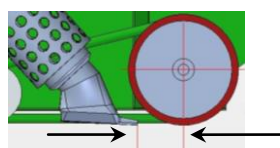
4.11. Adapt the holder to (SW10/Allen key SW5)



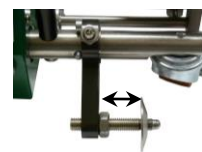
4.12. Mount the hand tool (Torx T20)



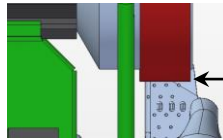
4.13. Adjustment see page 4



4.14. Adjust the guide roller (SW17) Position see 4.10.



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



Distance between outer edge nozzle and pressure roller approx..2.0mm

Fasten all screws and nuts

ASSEMBLY INSTRUCTION FOR ACCESSORY NO. 5: GUIDE HANDLE

Art.no. 5230077

Guide handle

Allen screw M8x25

Required tools: Allen key SW6

5.0. Adjustment of the rand accessory kit:

5.1. Switch off the device

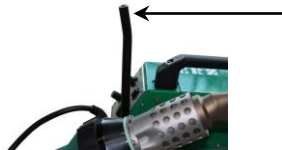
5.2. Unplug the tool

5.3. Lay the tool down to the side

5.4. Mount the guide handle with allen screw M8x25



5.5. Fix the guide handle and fasten the screws
Take notice of the bent direction.



5.6. Screw and fasten the upper part of the guide handle

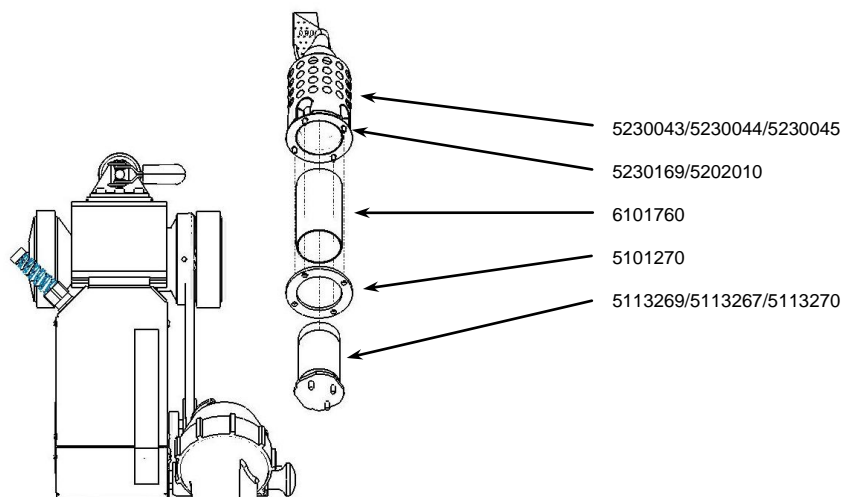


5.7. Draw the tool up

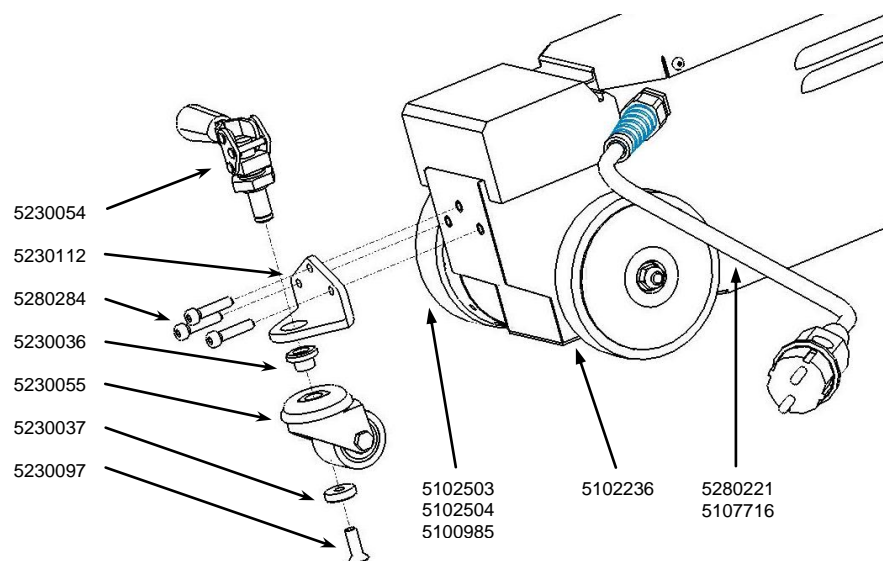
5.8. Removing the guide handle in opposite order

SPARE PARTS DRAWINGS

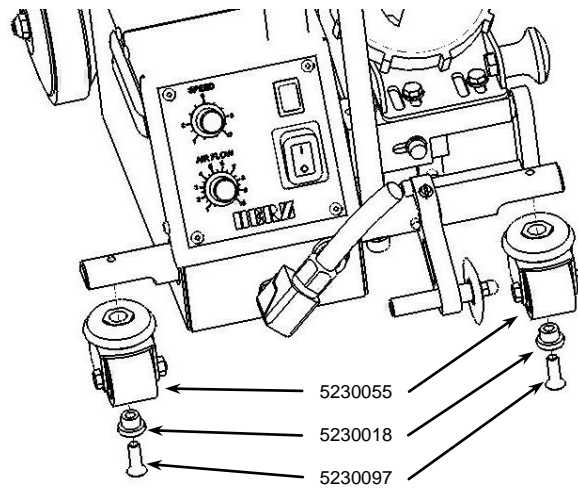
Heating element and nozzle



Lifting device



Guide rollers



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 Ø = 47, 6x95 mm	1
5101270	Heating element gasket	1
5113267	Heating element 120 V, 2600 W	1
5113269	Heating element 240 V, 3300 W	1
5113270	Heating element 230V, 2x1800W	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 mm² with Schuko plug	1
5107716	Power cable 3x2.5 mm², 5 m with end sleeves (for 120 VAC version)	1