

Operating Instructions

Automatic Wedge Welder Wedge It Micro 220V (/110V*)

Serial number:	Typenschild klein
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Registergericht/Registration Court: Amtsgericht Montabaur, HRB 3959

Geschäftsführer/Managing Director: Stefan Munsch

*This machine is available in 220V and 110V, please see chapter „Machine versions“.

Introduction

Wedge It Micro, developed and manufactured by MUNSCH Kunststoff-Schweißtechnik GmbH, is a machine with an own actuator, joining thermoplastic foils and similar materials by heat and pressure. The Wedge It Micro is developed for outdoor use, but may also be used in-door.

Attention

This machine is an electromechanical unit with moveable parts, operated by high pressure. Take care in using the Wedge It Multi, especially the moveable parts (no contact with clothes, hair, bodily parts).

Crushing hazard!!!

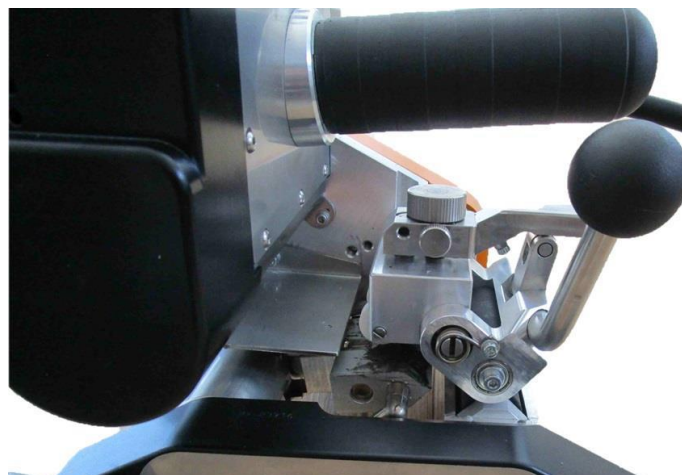
Product description



1. Power cord
2. Cooling fan
3. Hour meter
4. Set screw 1 and 2
5. Wedge engagement lever
6. Locking pin wedge position



- 7. Temperature control
- 8. Temperature switch
- 9. Mains switch motor
- 10. Speed knob



- 11. Actuating lever
- 12. Pressure lever
- 13. Pressure adjustment wheel
- 14. Pressure locking bolt



15. Heater fuse 10A, T

16. Motor fuse 4A, F



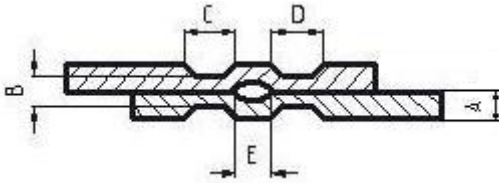
17. Lower roller

18. Upper roller

19. Hot wedge

Function

Overlap weld with air channel



The Wedge It Micro produces an overlap seam with a width of 50mm (without air channel) at an overlap of approx. 100 mm. The weld of various materials and weldings with air channel are possible by using different hot wedges and rollers.

You can find a chart at chapter "Machine versions".

- A Sheet thickness
- B Thickness of weld seam
- C Part seam 1
- D Part seam 2
- E Air channel

NOTE:

Before every welding procedure, check the machine for damages. Check the actuator rolls and the hot wedge for pollution and remainders.

The welding joint must be clean in the area of the overlapping between the foils as well as above and below the foils.

When operating the unit with power supply from a generator set, make sure that the generating capacity is sufficient (ca. 3 to 5kW).

Attention!!

Never leave the unit unattended and never lay it down for prolonged periods with the heating current activated.

This will cause unnecessary heat development and ultimately damage to the machine components.

Attention!!

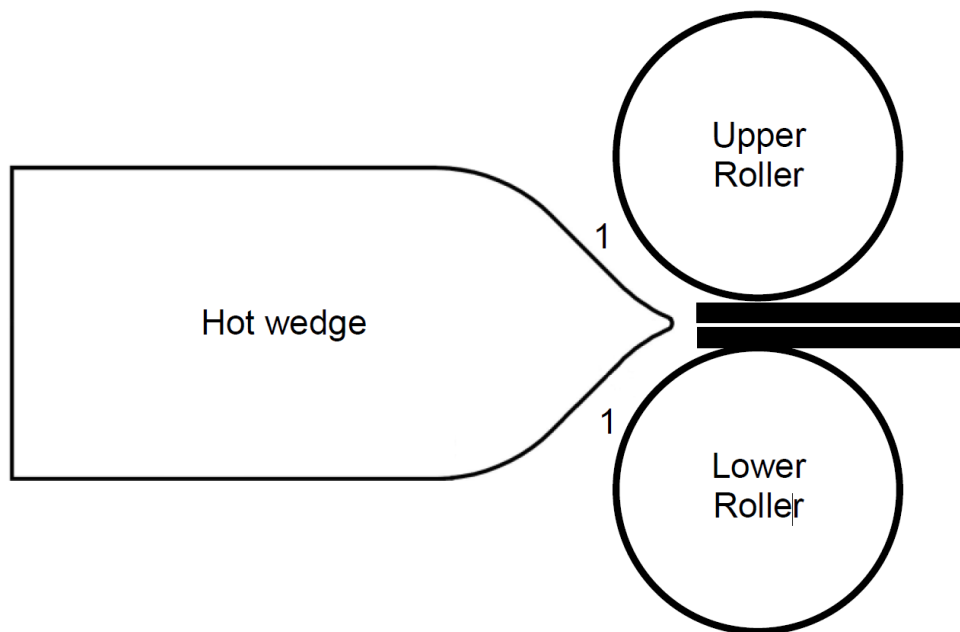
Never allow the machine to run with the nip rollers locked in place and no material in the machine. This will destroy the nip rollers and the wedge assembly.

Wedge and Pressure adjustment

Wedge adjustment

You can adjust the wedge position by the set screws 1 and 2 (see Fig. 1).

Suggested wedge setting



Attention: Despite of PVC, the distance 1 should be app. 2 times the sheet thickness on every material. On PVC this distance should be app. the sheet thickness. The distance between upper and lower roller should be not more than the single sheet thickness, to make a good pressure rate possible. You can adjust the pressure via the “Nip pressure adjustment gage”.

Suggested welding parameters

Following parameters / machine versions are suggested to use for welding geomembranes:

Material	Wedge temp.	Welding speed	Suggested rollers
HDPE 0.50mm	400 °C	3.0 to 4.5 m/min	Steel
HDPE 0.75mm	400 °C	3.0 to 3.9 m/min	Steel
HDPE 1.00mm	450 °C	2.4 to 3.6 m/min	Steel
LLDPE 0.50mm	380 °C	3.6 to 5.4 m/min	Hypalon
LLDPE 0.75mm	380 °C	3.6 to 4.9 m/min	Hypalon
LLDPE 1.00mm	400 °C	3.0 to 4.2 m/min	Steel
PE/LDPE 0.30mm Coated	350 °C	6.0 to 9.0 m/min	Hypalon
PE/LDPE 0.50mm Coated	380 °C	4.5 to 7.6 m/min	Hypalon
PE/LDPE 0.75mm Coated	380 °C	3.0 to 5.4 m/min	Steel
PVC 0.30mm	400 °C	3.0 to 4.9 m/min	Hypalon
PVC 0.50mm	400 °C	2.4 to 4.2 m/min	Hypalon
PVC 0.75mm	450 °C	2.4 to 3.6 m/min	Steel
PVC 0.30mm Coat-ed	380 °C	6.0 to 10.6 m/min	Hypalon
PVC 0.50mm Coat-ed	400 °C	6.0 to 9.7 m/min	Hypalon
PVC 0.75mm Coat-ed	450 °C	5.5 to 9.1 m/min	Steel
PP 0.90mm Coated	400 °C	2.4 to 4.2 m/min	Steel
PP 1.15mm Coated	450 °C	2.4 to 3.6 m/min	Steel

Attention: All named parameters / machine versions are only suggestions at perfect conditions. The user of the machine is responsible for adjustments to the given conditions. Munsch does not take responsibility for the quality of the welding.

Temperature adjustment

Switch on the temperature control.

Attention: The hot wedge will now heat up to the set temperature.



Please set the desired welding temperature by using the up and down buttons on the controller. As longer you push a button, the faster the set temperature changes.

Speed setting

Set the speed with the speed knob to the desired point.

Attention: The motor only starts, if the hot wedge is engaged.

Following values are to be taken as guide value to set the desired welding speed:

Scale value	Speed
10	ca. 0,7 m / min
20	ca. 1,7 m / min
30	ca. 2,6 m / min
40	ca. 3,2 m / min
50	ca. 3,8 m / min
60	ca. 4,5 m / min
70	ca. 5,1 m / min
80	ca. 5,6 m / min
90	ca. 6,1 m / min
100	ca. 6,5 m / min

Start the welding

Switch on the temperature control.

Please take care that the hot wedge is not engaged, to avoid damages on the rollers.

Switch on the power switch of the motor.

Please now insert the machine into the geomembrane.

Close the actuating lever and engage the hot wedge by using the wedge engagement lever.

Please pull the locking pin of the wedge position, when reaching the end of the geomembrane, to disengage the wedge and to stop the motor.

Now please open the actuating lever.

User note:

Please put the machine, if stopping during the weld or when having finished a line on the front of the machine, which shows into the direction of weld, to guarantee an optimum heat dissipation.

Never leave the wedge engaged if the machine is not in the welding line and the pressure lever is closed. This would cause defect of the rollers.

Temperature adjustment

Attention: Changing of the wrong parameters after unlocking the controller may cause defects on the machine and causes termination of warranty!

Unlocking the controller

1. Keep pressed  and  until oATP appears.
2. Set it to „0“
3. Press  1 x: iCPt appears
4. Set it to „0“
5. Keep pressed  and  until the main display reappears.

Temperature adjustment

1. Set the desired temperature and wait until the shown temperature reaches the set point.
2. Measure the real temperature with a surface probe and evaluate the temperature difference between shown temperature and measured temperature.
3. Press  shortly: LAdj appears
4. Press 2 x : iN-S appears
5. Set the measured temperature difference. If the measured temperature is higher than the shown temperature, higher iN-S. If it is lower, please reduce the value by the measured difference.
6. Press  shortly.
7. Reapply step 2. Reapply steps 3 to 7 until the temperature is matching by 2°C.

Locking the controller

1. Keep pressed  and  until oATP appears.
2. Set it to „2“
3. Press 1 x : iCPt appears
4. Set it to „2“
5. Keep pressed  and  until the main display reappears.

Machine versions

Wedge It Micro is available in 4 standard versions:

- K05932 – Wedge It Micro 220V, without air channel, with aluminum wedge, with Hypalon rollers
- K03391 – Wedge It Micro 110V, without air channel, with aluminum wedge, with Hypalon rollers
- K07349 – Wedge It Micro 220V, with air channel, with copper wedge and steel rollers
- K07352 – Wedge It Micro 110V, with air channel, with copper wedge and steel rollers

Optionally, the machines K05932 and K03391 can be adapted to following settings:

- Steel roller without air channel
- Steel roller with air channel + hot wedge in aluminum with air channel

Please contact your service office.

Troubleshooting

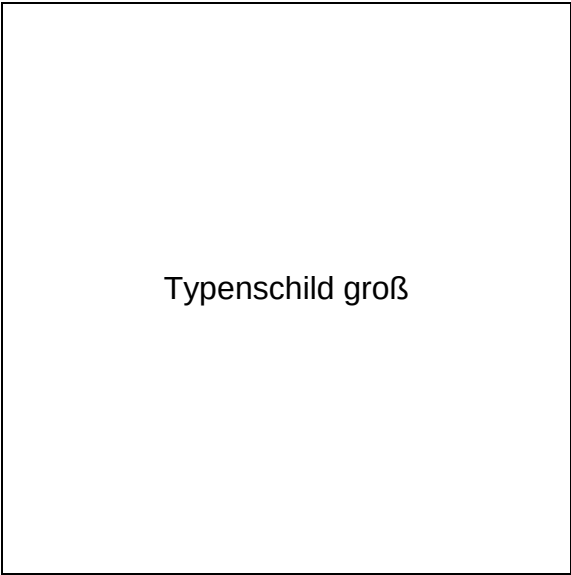
Visible error	Possible reason	What to do
Wedge does not heat up	Fuse (-s) defect	Replace the fuses
	Probe / controller defective	Contact your service
	No power on the machine	Check the power supply
Wedge does not stop heating	Controller set to wrong parameters	Contact your service
	Relay / Controller defective	Contact your service
Machine gets stuck / burns holes into the geomembrane	Speed too low	Check the speed
	Temperature too high	Adjust the temperature
No acceptable welding result (no connection)	Temperature too low	Adjust the temperature
	Pressure too low	Higher the pressure
	Wrong rollers	Contact your service
Motor does not start	Switch not activated (wedge not engaged)	Engage the wedge
	Fuse (-s) defective	Replace the fuses
	Mains switch motor not activated	Switch the motor mains switch on
	No power on the machine	Check the power supply
	Motor controller defective	Contact your service

Transport / Storage

The welding automate my only be stored and transported within the delivered transport case.
Before packing the hot wedge welding machine into its case, it has to cool down to maximum hand warmth.

Service and repair

Repairs shall be carried out exclusively by MUNSCH Kunststoff-Schweißtechnik GmbH or licensed service centers. Any warranties for units which are no longer in the original condition shall be expressly excluded. The units may not be modified and/or changed in any way whatsoever. Any liability for damage resulting from improper use or normal wear and tear of the units shall be excluded. Please always include this page, when sending this machine in for repair or calibration.



Date	Operating hours	Kind of repair	Carried out by

EG-Konformitätserklärung des Herstellers

nach der EG-Maschinenrichtlinie 2006/42/EG Anhang II, Nr. 1 A

EC-Declaration of Conformity by the Manufacturer

as defined by machinery directive 2006/42/EC, Annex II, No. 1 A

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Mr. Johann Dausenau,
Fa. Kunststoffschweißtechnik GmbH,
is authorized to compile the technical documentation.

We hereby declare that the wedge welders

Machine type:	Wedge welder	Wedge welder	Wedge welder	Wedge welder
Type designation:	Wedge-It-Micro	Wedge-It	Wedge-It-LE	Wedge-It-Multi
		Wedge-It-Plus		Wedge-It-Multi-ECO

Are in accordance with all relevant provisions of the EC Machinery Directive.

The following harmonized standards (or parts of these standards) were applied:

- | | |
|--|--|
| ☒ DIN EN ISO 12100 : 2011 | ☒ DIN EN 13732-1: 2008 |
| ☒ EN 60204-1 (VDE 0113 Teil 1): 2011 | ☒ DIN EN 55014-1: 2012 |
| ☒ EN 61029-1 (VDE 0740 Teil 500): 2010 | ☒ DIN EN 55014-2: 2009 |
| ☒ VDE 0701 Part 1: 2008 | |

The wedge welders are in accordance with the following EC-directives:

- | | |
|--|---|
| ☒ EU-Low Voltage Directive
2014/35/EU | ☒ EU-Directive EMV 2014/30/EU |
| ☒ EU-Machinery Directive 2006/42/EG | ☒ RoHS 2011/65/EU |

This industrial tool complies with the aforesaid standards in so far as it is used at the contractually agreed conditions. The operator is responsible for this.

In the event of any modifications to the machine / unit or use not as intended, this declaration becomes invalid unless the manufacturer's prior written approval has expressly been given.



Ransbach-Baumbach, 31.10.2019

Dipl.-Ing. Stefan Munsch
Managing director