

WELDMAN MICRO MIG 225

INSTRUCTIONS MANUAL



WARNING! FOR SAFETY REASON PLEASE READ AND UNDERSTAND THE FOLLOWING INSTRUCTIONS BEFORE FIRST USE OF THE DEVICE.

1. General instructions

Read the operating instructions!

The operating instructions provide an introduction to the safe use of the products. An incorrectly performed installation can result in material damage and injure persons as a result. For this reason, we do not accept any responsibility or liability for losses, damages or costs arising from incorrect installation, improper operation or incorrect usage and maintenance or any actions connected to this in any way.

- Read the operating instructions for all system components!
- Observe accident prevention regulations!
- Observe all local regulations!
- Confirm with a signature where appropriate.

2. Safety instructions

DANGER!

Electromagnetic fields!

The power source may cause electrical or electromagnetic fields to be produced which could affect the correct functioning of electronic equipment such as IT or CNC devices, telecommunication lines, power cables, signal lines and pacemakers.

- Observe the maintenance instructions! (see Maintenance and Testing chapter)
- Unwind welding leads completely!
- Shield devices or equipment sensitive to radiation accordingly!
- The correct functioning of pacemakers may be affected (obtain advice from a doctor if necessary).

Do not carry out any unauthorised repairs or modifications!

To avoid injury and equipment damage, the unit must only be repaired or modified by specialist, skilled persons! The warranty becomes null and void in the event of unauthorised interference.

- Appoint only skilled persons for repair work (trained service personnel)!

Electric shock!

Welding machines use high voltages which can result in potentially fatal electric shocks and burns on contact. Even low voltages can cause you to get a shock and lead to accidents.

- Do not touch any live parts in or on the machine!
- Connection cables and leads must be free of faults!
- Switching off alone is not sufficient!
- Place welding torch and stick electrode holder on an insulated surface!
- The unit should only be opened by specialist staff after the mains plug has been unplugged!
- Only wear dry protective clothing!
- Wait for 4 minutes until the capacitors have discharged!

WARNING!

Risk of injury due to radiation or heat!

Arc radiation results in injury to skin and eyes.

Contact with hot workpieces and sparks results in burns.

- Use welding shield or welding helmet with the appropriate safety level (depending on the application)!
- Wear dry protective clothing (e.g. welding shield, gloves, etc.) according to the relevant regulations in the country in question!
- Protect persons not involved in the work against arc beams and the risk of glare using safety curtains!

Explosion risk!

Apparently harmless substances in closed containers may generate excessive pressure when heated.

- Move containers with inflammable or explosive liquids away from the working area!
- Never heat explosive liquids, dusts or gases by welding or cutting!

WARNING!

Smoke and gases!

Smoke and gases can lead to breathing difficulties and poisoning. In addition, solvent vapour (chlorinated hydrocarbon) may be converted into poisonous phosgene due to the ultraviolet radiation of the arc!

- Ensure that there is sufficient fresh air!
- Keep solvent vapour away from the arc beam field!
- Wear suitable breathing apparatus if appropriate!

Fire hazard!

Flames may arise as a result of the high temperatures, stray sparks, glowing-hot parts and hot slag produced during the welding process.

Stray welding currents can also result in flames forming!

- Check for fire hazards in the working area!
 - Do not carry any easily flammable objects such as matches or lighters.
 - Keep appropriate fire extinguishing equipment to hand in the working area!
 - Thoroughly remove any residue of flammable substances from the workpiece before starting welding.
 - Only continue work on welded workpieces once they have cooled down.
- Do not allow to come into contact with flammable material!
- Connect welding leads correctly!

Risk of accidents if these safety instructions are not observed!

Non-observance of these safety instructions is potentially fatal!

- Carefully read the safety information in this manual!
- Observe the accident prevention regulations in your country.
- Inform persons in the working area that they must observe the regulations!

Danger when coupling multiple power sources!

Coupling multiple power sources in parallel or in series has to be carried out by qualified personnel and in accordance with the manufacturer's guidelines. Before bringing the power sources into service for arc welding operations, a test has to verify that they cannot exceed the maximum allowed open circuit voltage.

- Connection of the machine may be carried out by qualified personnel only!
- When decommissioning individual power sources, all mains and welding current leads have to be safely disconnected from the welding system as a whole. (Danger due to inverse voltages!)
- Do not couple welding machines with pole reversing switch (PWS series) or machines for AC welding, as a minor error in operation can cause the welding voltages to be combined.

WARNING!

Hazards due to improper usage!

Hazards may arise for persons, animals and material objects if the equipment is not used correctly. No liability is accepted for any damages arising from improper usage!

- The equipment must only be used in line with proper usage and by trained or expert staff!
- Do not modify or convert the equipment improperly!

CAUTION!

Installation site!

The machine must not be operated in the open air and must only be set up and operated on a suitable, stable and level base!

- The operator must ensure that the ground is non-slip and level, and provide sufficient lighting for the place of work.
- Safe operation of the machine must be guaranteed at all times.

Equipment damage due to dirt accumulation!

Unusually high quantities of dust, acid, corrosive gases or substances may damage the equipment.

- Avoid high volumes of smoke, vapour, oil vapour and grinding dust!
- Avoid ambient air containing salt (sea air)!

Non-permissible ambient conditions!

Insufficient ventilation results in a reduction in performance and equipment damage.

- Observe the ambient conditions!
- Keep the cooling air inlet and outlet clear!
- Observe the minimum distance of 0.5 m from obstacles!

3. Applications

WELDMAN MICRO MIG 225 is intended for welding processes like MIG/MAG, MMA, TIG Lift and FLUX. The device is made for arc welding of steel alloys in all methods, and aluminium alloys in mig mode only.

The manufacturer is not liable for damage caused by improper use of the device.

4. Technical specification

MODEL	MICRO MIG 225 SYN MIG/TIG/MMA VRD		
PARAMETRY OGÓLNE			
Power supply voltage	230V/50Hz		
Safety switch rating	20 A		
MIG WELDING PARAMETERS		40A/16,5V-220A/25V	
Duty cycle	60%	100%	
Welding current	220 A	170 A	
Welding voltage	25 V	22,5 V	
TIG WELDING PARAMETERS		10A/10,4V-220A/18,8V	
Duty cycle	60%	100%	
Welding current	220 A	170 A	
Welding voltage	18,8 V	16,8 V	
TIG WELDING PARAMETERS		20A/20,4V-200A/28,8V	
Duty cycle	60%	100%	
Welding current	200 A	170 A	
Welding voltage	28,8 V	26,8 V	
Max spool weight	5 kg		
Welding wire diameter	steel	inox	FLUX
	0,6-1,0	0,6-1,0	0,9
Coated electrode diameter	1,6/2,0/3,2/4,0		
Cooling type	FAN		
Insulation class	F		
Insulation rating	IP21S		
Dimensions	50x24x43 cm		
Weight	14,5 kg		

5. Preparing device to work

If the device is stored or transported in cold conditions it must be brought to a temperature above zero before starting work.



1 - Welding mode selection button	7 – Gas test, wire feed test
2 - Wire diameter selection button (MIG/Flux)	8 – Adjustment knob
3 - Voltage display	9 – Function button
4 - Welded material type selector	10 – Negative connector (-)
5 - Amperage display	11 – Positive connector (+)
6 - Welding voltage/Wire feeding selector (MIG)	12 – Euro socket

5.1 Connecting torches and cables

Place the device on an even and dry surface in a ventilated room with good air circulation away from flammable objects. Avoid contact of the inner components with dust, corrosive vapors, moisture, direct rain, welding spatter, grinding dust etc.

CONNECTING TO POWER SUPPLY NETWORK


Before connecting to power supply make sure that supply network parameters correspond to the voltage and frequency of the device. Check if the fuse values are consistent with those given in the technical specification.

ELECTRICAL CONNECTIONS SHOULD BE MADE BY QUALIFIED PERSONNEL ONLY

5.1.1 Preparing device to work

- 1) Before connecting the welder to network make sure that the power switch located on the back panel is in the OFF position
- 2) Ground clamp is attached to work material and the plug is connected to the negative socket (-) (13)
- 3) MIG torch plug is attached to the Euro socket (9) (MIG/MAG, FLUX)
- 4) TIG welding torch or MMA electrode holder is attached to the positive (+) socket (10)
- 5) Polarization connectors inside spool compartment should be connected to + MIG (pic. 1) or to - for gasless welding FLUX (pic. 2)



- 6) Ground clamp should be connected to socket on the front panel marked with picture of a clamp 

6. Conducting welding process

6.1 Welding with MIG/MAG and FLUX methods

6.1.2 MIG PROCESS

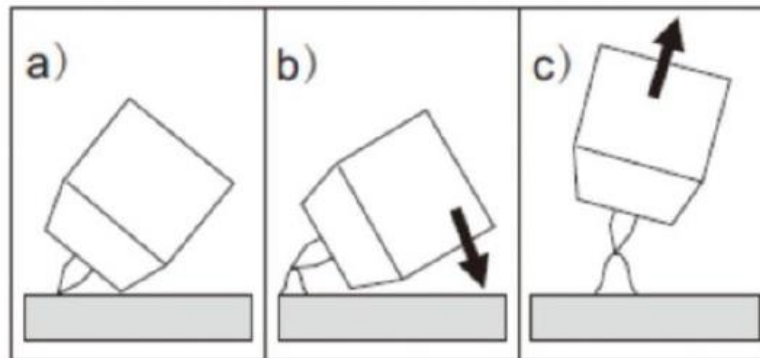
- turn the power switch to ON position
- set the welding method switch to MIG/TIG position (5)
- open the valve on the gas cylinder and set the appropriate gas flow on the gas regulator
- set the wire feed speed (6) and the desired welding voltage value (7)
- ignite the arc to conduct welding
- after welding is done close the gas valve on the cylinder (only when using shield gas)
- after welding is done leave the device for a while to cool down and then turn it OFF

6.1.3 TIG PROCESS

- turn on the main switch on the rear panel of the welding machine
- set the welding method switch in the MIG / TIG position (5)
- set the desired welding current (8)
- we start welding

Lift arc ignition

- a) Touch the welded surface with the tip of the tungsten electrode
- b) Lean the torch downwards to brake a contact with work piece until arc develops
- c) If the arc is correctly developed put the torch to correct position and conduct welding



6.1.4 MMA process

- after connecting the welding cables turn on the main switch
- set the welding method switch to the MMA position (5)
- set the desired welding current (8)
- we start welding observing the relevant work rules
- after welding, leave the device turned on for a short period of time to cool it down by the fan
- we remove the slag

7. Troubleshooting

Objawy	Przyczyna	Postępowanie
Device does not turn on or it turns off spontaneously	Power supply voltage too high >15%	Turn the device OFF. check if power supply network parameters corresponds to device parameters. Check all cables connections. Wait until device cools down
	Power supply voltage too low <15%	
	Vents are covered	Provide enough air flow to vents
	Duty cycle limit reached	Wait until device cools down. Overheat protection module deactivates automatically when reached appropriate temperature
	Circuit board temperature too high. Overheat protection module activated.	
Wire is not provided (feeder motor operates)	Not enough pressure on a feeder roller	Put more pressure on the roller
	Torch liner clogged with dust or debris	Clean or replace torch liner
	Roller size does not correspond to wire diameter	Attach correct wire roller or change wire diameter
	Welding wire jammed at contact tip	Welding wire jammed at contact tip
Wire is not provided (feeder roller doesn't operate)	Motor failure	Contact service centre
	Control module failure	Contact service centre
Irregular wire feed	Damaged contact tip	
	Roller groove needs cleaning or it might be worn. Incorrect roller size	Clean or replace roller. Use appropriate size corresponding to wire diameter
Arc does not ignite	Ground not attached correctly	Correct ground clamp
Arc too short	Welding voltage too low	Increase welding voltage
	Wire feed too fast	Adjust wire feed speed
Irregular, long arc	Welding voltage too high	Reduce welding voltage
	Wire feed too slow	Adjust wire feed speed

8. Transporting and storage

Always store the devices in a dry, ventilated place, out of reach of children and bystanders. Protect the device against vibrations and shocks during transport.

9. Recycling

The packaging and device materials are suitable for recycling use. Disposal of the packaging and device must be done in accordance with local regulations. The packaging materials should be protected against children as they are potential source of danger.

10. Declaration of conformity

LVD 2014/35/EU
EN 60974-1:2012

11. Warranty

The manufacturer of the device provides full warranty service for the power supply unit within 24 months from the day device was purchased. An individual warranty card is issued for each device. Warranty is valid only if all conditions listed in the instructions manual were fulfilled. If the device was used inappropriate or against instructions the warranty becomes invalid. Service centre does not cover the postage cost for sending the device for repairs or sending it back after repairs.

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