ULTRA

Air-cooled MIG torch

ULTRA

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Instructions for use

(note: the current version of the manual is always on the website **www.kowax.cz)**

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CONTENTS

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The document is a manual for the operation and maintenance of KOWAX® ULTRA® welding torches from **SVARMETAL sro.** It contains detailed information on work safety, technical data of the torches, the procedure for commissioning, operation, maintenance and disposal. The emphasis is on safety precautions and the use of only original spare parts. The manual includes illustrations and diagrams to facilitate understanding. The warranty and contact information for the manufacturer are also provided.

1. Identification

The MIG/MAG welding torch is designed for arc welding of metals in a protective atmosphere. It complies with the EN 60974-7 standard and is used exclusively with original KOWAX® spare parts. This manual applies to the following models:

KOWAX® Torch 150A ULTRA
KOWAX® Torch 240A ULTRA
KOWAX® Torch 250A ULTRA.

1.1. Security

Please read this manual carefully before first use.

- **Safety First:** Follow all safety instructions to prevent injury, damage to property and environmental hazards.
- **Qualified personnel:** Welding may only be carried out by qualified personnel.
- **Work environment:** Ensure adequate lighting and ventilation, keep the workplace clean.
- **Protective equipment:** Wear appropriate protective equipment (e.g. gloves, helmet).
- **Electrical equipment:** Check that all electrical equipment is in good condition and properly grounded.
- **Gas cylinders:** Handle gas cylinders with care and according to the manufacturer's instructions.

2. Intended use

Use the welding torch only for welding and in accordance with these instructions. Any other use is prohibited.

2.1. Basics

- **Read this manual:** Before carrying out any work on the burner (start-up, operation, maintenance), read Please read this manual carefully and follow it.
- **Keep the manual handy:** The manual should always be easily accessible near the burner. When selling or passing on the burner to a new user, you will pass on the manual to them.
- **Other components:** Also observe the operating instructions for other devices such as the welding power source or wire feeder.

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- **Gas cylinders:** When handling gas cylinders, follow the manufacturer's safety instructions and applicable regulations.

- **Safety regulations:** Follow all applicable safety regulations.
- **Qualified personnel:** Only persons with appropriate qualifications and experiences.
- **Safe working environment:** Ensure adequate lighting and maintain order in the workplace.
- **Safety at work:** Before any work (maintenance, repairs), switch off the power supply and disconnect all hoses.
- **Waste disposal:** Dispose of waste in accordance with applicable regulations.

2.2. Electrical equipment

- **Regular inspection:** Before each use, check that all electrical equipment is undamaged and functional.
- **Safe working environment:** Do not use power tools in environments with high humidity, rain or explosion hazard.
- **Protection against injury:** Protect yourself from electric shock.
- **Fire prevention:** Do not use power tools in areas with a fire hazard.

2.3. Welding

- **Health protection:** Welding can damage your eyes, skin and hearing. **Always wear protective equipment** (safety glasses/helmets, gloves, respirators) according to applicable standards.
- **Harmful fumes:** Fumes from welding can be toxic. **Provide adequate ventilation** and exhaust, especially when welding materials containing lead, cadmium, copper or beryllium.

- **Risk of fire and explosion:** Degrease welds with suitable products and remove all flammable materials from the workplace. **Keep fire extinguishers nearby.**
- **Other risks:** When welding, there is a risk of electric shock, burns, exposure to ultraviolet radiation and inhalation of harmful particles. **Be careful and follow the safety instructions.**

2.4. Technical condition

- **Follow instructions:** Do not overload the device beyond the specified limits. Overloading can lead to damage or complete failure.
- **No modifications:** Do not make any personal adjustments or modifications to the device.

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- **Weather protection:** When working outdoors, protect the device from rain, snow, and other adverse weather conditions.

2.5. Protective clothing

- **Clothing:** Do not wear loose work clothes or jewelry.
- **Hair:** Secure long hair under a protective cap or net.
- **Protective equipment:** Always wear safety glasses/helmets, gloves and, if necessary, a respirator when welding.

2.6. Classification of warnings

In this manual, we use four types of warnings to indicate potential hazards. Their meanings are as follows (from most serious to least serious):

DANGER - Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING - Indicates a potentially hazardous situation. Failure to observe may result in result in serious injuries.

CAUTION - Indicates a potentially harmful situation. Failure to observe this may result in light or minor injuries.

2.7. In case of emergency

In the event of an emergency, immediately cut off the power, compressed air, refrigerant and shielding gas supplies. Refer to the manuals for other equipment for further instructions.

WARNING - **Important notice: If you use the device in a way other than that specified in the instructions, it may be dangerous for you and those around you.**

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3. Product description

3.1. Technical data

Transportation and storage:

- **Temperature:** Can be stored at temperatures from -25°C to +55°C.
- **Humidity:** Tolerates high humidity up to 90% at 20°C.

Use:

- **Shielding gas:** Used with CO2 or M21 gas mixture.
- **Wires:** Common round wires are suitable.
- **Torch control:** The torch is controlled manually.
- **Voltage:** Requires direct current (DC) voltage with a maximum peak value of 1.3 V.
- **Current:** The control system in the handle operates with a current of 0.1 to 1 A at a voltage of 42 V.
- **Device protection:** The connections on the device are protected against dust (IP3X).
- **Polarity:** Positive polarity is usually used in welding.

Technical data:		**KOWAX® 150A ULTRA**	**KOWAX® 240A ULTRA**	**KOWAX® 250A ULTRA**
Cooling		gas-cooled	gas-cooled	gas-cooled
CO2		180A	250A	230A
Mixed gas		150A	220A	200A
Encumbrancer		60%	60%	60%
Wire diameter		0.6-1.0mm	0.8-1.2mm	0.8-1.2mm
Order numbers	**3m**	**HKM150A3ULTRA**	**HKM240A3ULTRA**	
	4m	**HKM150A4ULTRA**	**HKM240A4ULTRA**	**HKM250A4ULTRA**
	5m			

Basic product data complies with IEC/EN60974:

Rated voltage:	113V peak value
Rated ignition and stabilization voltage	8KV
Description: arc:	See the data sheet for your model.
Wire types:	Commercially available round wires
Gas:	Argon, CO2 or mixed gas
Torch length	3, 4 or 5 meters.
Operating temperature:	-10°C to +40°C
Transport/storage temperature:	-25°C to +55°C
Relative humidity:	Up to 50% at 40°C up to 90% at 20°C
Maximum and minimum bar gas inlet pressure	Minimum 0.4 Bar Maximum 2.0 Bar

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4. Commissioning

DANGER - Risk of injury from unexpected start-up

Before assembling, disassembling or maintaining any equipment parts, take the entire system out of service.

- Close all supply lines.
- Disconnect the power supply.

DANGER - Professional service only: All repairs and adjustments to the device may only be carried out by qualified personnel. Unauthorised intervention may result in device failure, injury and void the warranty.

WARNING - **Injury Warning:** Touching metal parts of the torch can cause fatal electric shock. Use only the designated insulated handle.

WARNING - **Electric shock due to damaged or improperly installed components** Damaged or improperly installed components
can cause life-threatening electric shock. Components include: welding torch, cable harness, spare parts, wear parts.

- Before each use, check the correct installation and any damage to all components and all connections.
- Clean contaminated parts immediately.
- Replace damaged parts immediately.
- Have damaged, deformed or worn parts replaced exclusively by a qualified electrician trained by SVARMETAL sro.

4.1. Before each use

- Check the welding torch, clean it and replace it if necessary.
- Check all spare and wearing parts, clean them and replace them if necessary.
- Check the wiring harness, clean it and replace it if necessary.

4.2. Preparing the welding torch

- Switch off the welding power source and disconnect it from the electrical network.
- Close the gas and compressed air supply.

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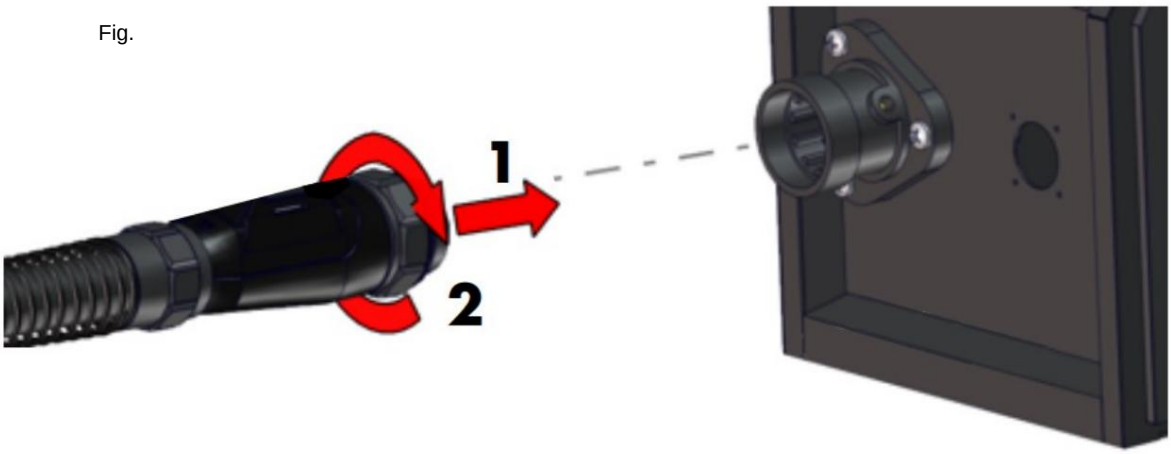
4.3. Connecting the wiring harness

- See picture below

- On the wire feeder, plug the central plug into the connection socket.

Fig.



4.4. Shielding gas connection

Gas selection: Choose a shielding gas suitable for your welding application.

Cleaning the pressure reducing valve: Before connecting, briefly open and close the gas supply valve to remove any dirt.

Connection: Connect the shielding gas to the welding machine according to the manufacturer's instructions.

Flow Adjustment: Adjust the amount of gas on the welder according to the requirements of your welding application.

4.5. Wire insertion

WARNING - **Injury Prevention:** To prevent injury from sharp electrode parts, use extreme caution and **wear protective gloves.**

Wire preparation: Cut a piece at the beginning of the wire to remove any sharp edges or kinks.

Inserting the wire: Insert the wire into the feeder according to the instructions.

Wire feed: Press the wire feed button and pull the end of the wire out of the torch.

Removing excess wire: Cut off the excess wire.

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4. Burner control

see fig.

Fig.2.

NOTE - In general, the maximum number of bending cycles for a flexible neck is 100x, provided that the bend is not greater than 45° with a minimum bend radius of 25mm. Bending back to the starting position is classified as a bending cycle.

5. Burner maintenance and cleaning

DANGER - Injury Prevention: To prevent an accident from unexpected start-up, always before assembly, disassembly or maintenance:

- Take the device out of service.
- Close all supplies (water, gas, air, etc.).
- Disconnect the electrical supply.

WARNING - **Risk of burns:** The welding torch becomes very hot during operation. To avoid burns, allow the torch to cool down after use and always wear protective gloves when handling it.

5.1. Annual inspection

Annual Service: Have the device checked and cleaned by a qualified technician once a year.

More frequent service: If you use the device very frequently or in demanding conditions, have it checked more often.

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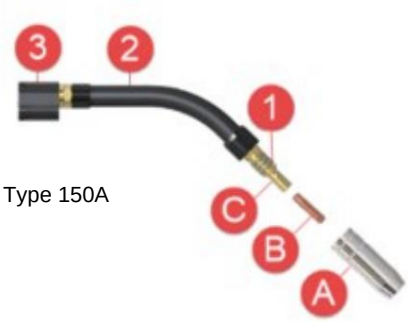
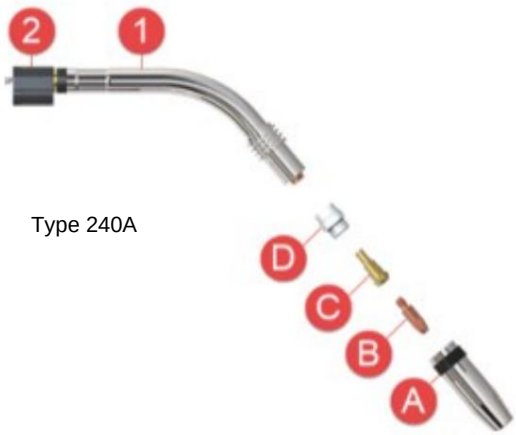
5.2. Replacing wearing parts

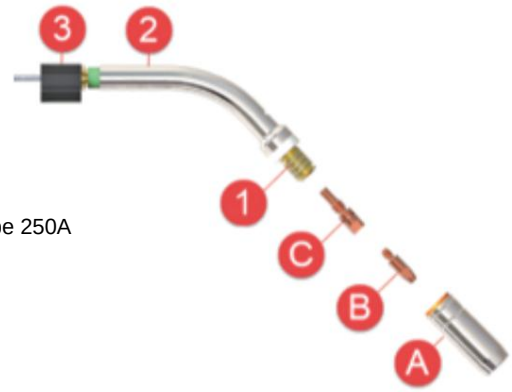
- see picture below



Type 150A



Type 240A



Type 250A

WARNING – Material damage may occur due to the use of unsuitable consumable parts. The use of consumable parts from other manufacturers and incorrect installation of consumable parts may cause material damage to the welding torch and impair working results. Use only original KOWAX consumable parts. Ensure that the consumable parts are correctly tightened for each specific welding torch. Make sure that the parts are installed in the correct order.

5.3. Shortening and reassembling the cable

- See picture below:

1. Unroll and stretch the torch/cable harness.
2. Remove all silver parts from the burner neck. (see also above – AD)
3. At the opposite end of the EUR connector, unscrew the union/lock nut.
4. Pull the cable out of the EUR connector, replace it with a new one and insert it back. completely into the wire guide.
5. Screw the union/lock nut onto the EUR connector and tighten it.

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6. Cut off the excess length of the Bowden cable at the torch neck with wire cutters.

7. At the opposite end of the EUR connector, unscrew the union/lock nut.

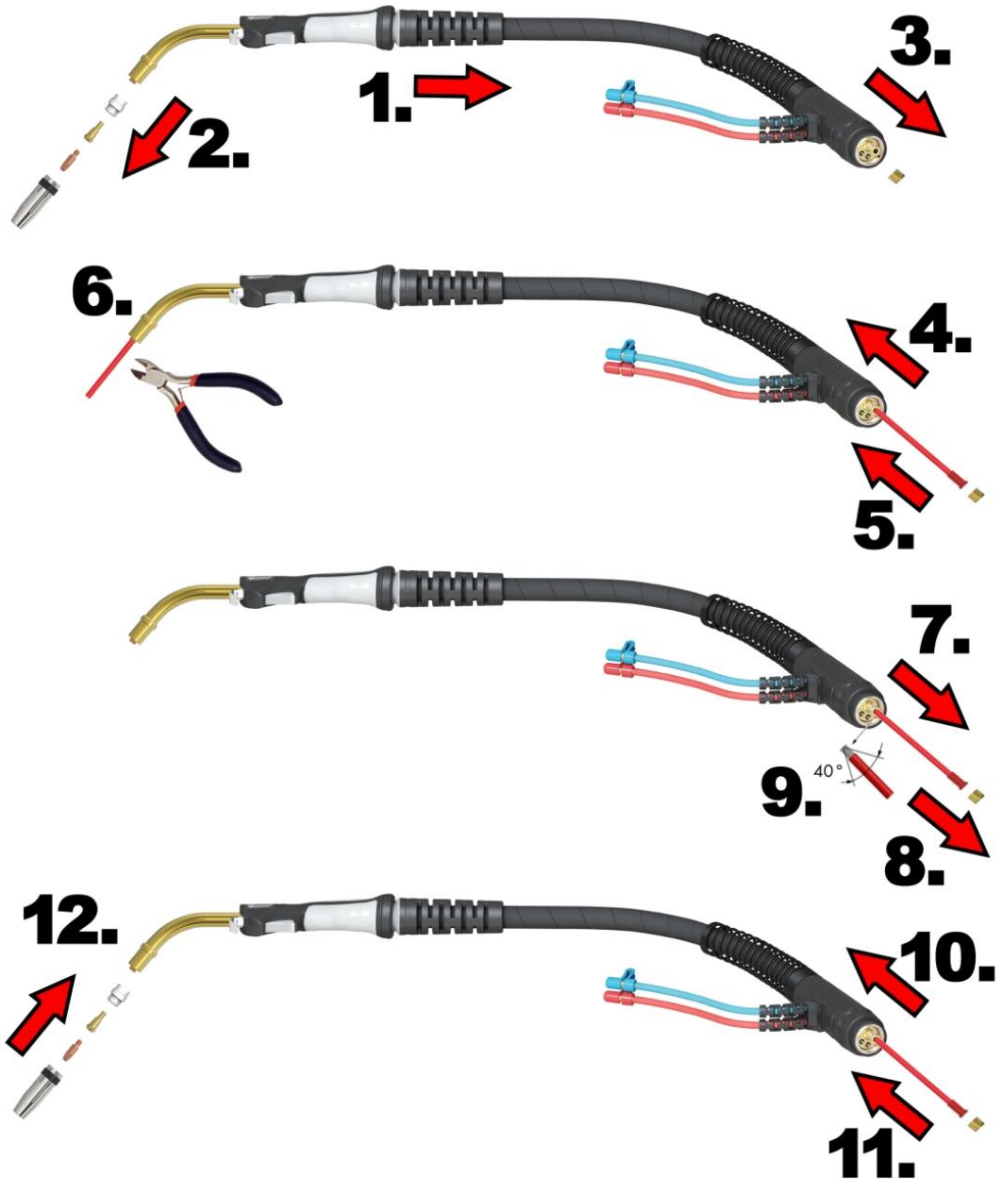
8. Pull the cable out of the EUR connector **again ,**

9. Clean the cut area and grind it to an angle of approx. 40°.

10. Pull the cable **back** into the EUR connector ,

11. Screw the union/lock nut onto the EUR connector.

12. Install consumable parts on the burner neck. (see above) **more in the KOWAX catalog at website.**



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6. Decommissioning

- Stop welding.
- Let the burner cool down sufficiently.
- Wait for the shielding gas flow to stop and turn off the power source.
- Close the valve of the shielding gas cylinder.

7. Waste management

Devices marked with this symbol are subject to European Directive 2012/19/EU on waste electrical and electronic equipment.

electronic devices.

- Electrical appliances must not be disposed of in household waste.
- Electrical appliances must be collected separately from other waste and to be handed over for ecological recycling purposes.
- Observe local regulations, laws, regulations, standards and guideline.
- Information regarding the collection and disposal of waste electrical equipment can be obtained from your local municipal office.
- Proper disposal of the product requires its disassembly.

8. Warranty

8.1. Warranty duration

Generally 2 years from the date of sale upon presentation of proof of purchase.

8.2. Provision of warranty

We only provide a warranty for manufacturing defects or faults, not for damage caused by natural wear and tear, excessive load, or unprofessional or incorrect handling.

8.3. Warranty validity

The warranty does not cover damage caused by the use of non-original parts, unprofessional interventions or normal wear and tear of components.

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