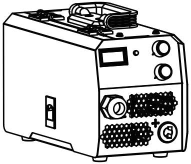
USER'S MANUAL



MIG-120

CE

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1. INTRODUCTION

MIG-120 is an easy–to–use MIG welding machine suitable for both hoddy and professional use. Before using or doing any maintenance work on the machine, read the operating manual and keep it for further reference.

1.1. PROPERTIES

The machine is suitable for a range of different purposes and the possibility to use a long extention cord eases operation in various sites. It is also suitable for generator use on construction sites.

Welding voltage and wire feed speed are adjusted with one control according to the thickness of the welded sheet. Thus,selecting the right parameters is easy. The length of the arc, or welding heat,is trimmed with another control,and once the right value is found there usually is no need to change it even when welding a thicker or thinner sheet.

The machine's welding properties are optimum with a steel wire of 0.8 mm diameter. Also,0.6 mm. 0.9 mm or 1.0 mm solid wire or cored wire can be used as filler wire.

1.2. ABOUT WELDING

In addition to the welding machine,welding outcome is influenced by the piece being welded and the welding environment. Therefore,recommendations in this manual must be followed.

During welding electric current is led with the welding gun's current nozzle to the filler wire and via that to the welded piece. Earthing cable attached to the workpiece guides the current back to the machine,formine the needed closed circuit,Unrestricted current flow is possible when the earthing clamp is properly attached to the workpiece and the fixing point of the clamp on the workpiece is clean,paintless and rustfree.

Shielding gas must be used during welding in order to prevent air from mixing with the weld pool. Carbon dioxide or a mixture of carbon dioxide and argon is suitable for shielding gas. Some filler wires form a shielding gas from the wire's filling as it melts thus eliminating the need for a separate shielding gas.

2. SAFETY INSTRUCTIONS

The machine is safe to use due to its plastic cover, which does not conduct electricity.

However,there are some risk factors connected to welding. You should therefore read and follow the following safety instructions carefully.

2.1. USE OF PROTECTIVE ACCESSORIES

The arc and its reflecting radiation damage unprotected eye. Always protect your eyes and face with an appropriate welding mask. The arc and welding spatters burn unprotected skin.When welding,always use protective gloves and clothing.

2.2. SAFE USE OF THE WELDING GUN

Parts of the machine,such as the end of the filler wire and welding gun.become burning hot during use.The wire is also sharp and moves quickly,so be careful when threading it to place.

Never carry the machine on your shoulder during welding, but place it on an even surface.

Do not keep the machine near or on hot objects, as the plastic cover may melt.

Do not move the shielding gas bottle when the control valve is in place. Fix the gas bottle securely in an upright position to a separete wall rack or bottle cart. Always close the gas bottle after use.

2.3. FIRE SAFETY

Welding is always classified as hot work.so pay attention to fire safety regulations. Protect the environment from welding spatters. Remove inflammable material, such as burning fluids,from the vicinity of the welding site and supply the site with adequate fire−fighting equipments.

Take into account dangers cauced by special workplaces, such as fire risk and danger of explosion,when welding container−like pieces.

NOTE! Fire caused by sparks may brake out even after several hours!

CAUTION! Welding in inflammable and explosive sites is strictly forbidden!

2.4. SUPPLY VOLTAGE

- Do not take the welding machine inside a workpiece, for example in to a container or a car.
- Do not place the welding machine on a wet surface.
- Change faulty cables immediately for they are life−threatening and may cause a fire.
- Ensure that cables are not squeezed or in contact with sharp edges or a hat workpiece.

2.5. WELDING CIRCUIT

- Insulate yourself from the welding circuit by using dry and undamaged protective clothing.
- Do not work on a wet surface.
- Do not use damaged welding cables.
- Do not place the welding gun or earthing clamp on the welding machine or other electrical device.

2.6. WELDING FUMES

Make sure ventilation is sufficient. Take special precautions when welding metals containing lead,cadmium,zinc,mercury or beryllium.

Supply of sufficient clean air can also be ensured with the use of a fresh air mask.

3. MACHINE USE

If you use non−recommended filler wire,make sure that the feed roll groove welding gun contact tip and machine polarity are suited for the used wire size and type.

3.1. BEFORE IMPLEMENTATION

The products are packed to durable packages especially designed for them. However,always make sure before use that products have not been damaged during transportation. Check also,that you have received the products you ordered and the instruction manuals needed.

Transportation

The machine should be transported in an upright position.

NOTE! Always move the welding machine by lifting it from the handle. Never pull it from the welding gun or other cables.

Environment

The machine is suitable for both indoor and outdoor use. but it should be protected from heavy rain and sunshine. Store the machine in a dry and clean environment and protect it from sand and dust during use and storage. The recommended operating temperature range is−20℃−+40℃。

Place the machine in such a way that it does not come in contact with hot surfaces. sparks and spatters.

Make sure the air flow in the machine is unrestricted.

Main Supply

Welding equipment should be connected to the main supply according to the manufacturer’s recommendations. If interference occurs, it may be necessary to take additional precautions such as filtering of the main supply. Consideration should be given to shielding the supply cable of permanently installed welding equipment in metallic conduit or equivalent. Shielding should be electrically continuous throughout its length. The shielding should be connected to the Welding Power Source so that good electrical contact is maintained between the conduit and the Welding Power Source enclosure.

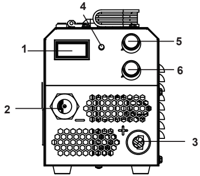
Welding Cables

The welding cables should be kept as short as possible and should be positioned close together,running at or close to the floor level.

Earthing of the Work Piece

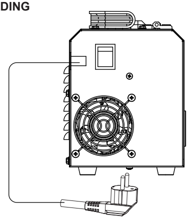
Where the work piece is not bonded to earth for electrical safety, nor connected to earth because of its size and position, e. g. ship’s hull or building steel work, a connection bonding the work piece to earth may reduce emissions in some. But not all instances. Care should be taken to prevent the earthing of the work piece increasing the risk of injury to users, or damage to other electrical equipment. Where necessary, the connection of the work piece to earth should be made by direct connection to the work piece. But in some countries where direct connection is not permitted, the bonding should be achieved by suitable capacitance, selected according to national regulations.

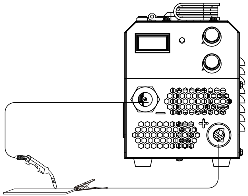
3.2Machine function instruction:



1.Digital display to Current
2.MIG welding torch
3.Machine output positive pole "+"
4.Pilot lamp of overload
5.MIG welding voltage compensation adjusting knob
6.MIG welding speed adjusting & MMA current adjusting knob

3.3 MIG WELDING





4. SERVICE

When servicing the machine, its utilization degree and environmental circumstances should be taken into account. If you use the machine appropriately and service it regularly,you will spare yourself from unnecessary malfunctions.

CAUTION! Disconnect the machine from the mains before handing the electrical cables.

4.1. DAILY MAINTENANCE

- Remove welding spatters from the welding gun's tip and check the condition of the parts. Change damaged parts to new ones immediately.
- Check that the insulating tips of the welding gun's neck are undamaged and in place. Change damaged insulation parts to new ones immediately.
- Check the tightness of the welding gun's and earthing cable's connections.
- Check the condition of the supply voltage and welding cable and replace faulty cables.

5. TROUBLESHOOTING

PROBLEM	CAUSE
The wire does not move or wire feed entangles	Feed rolls,wire conduit or contact tips are defective • Check that feed rolls are not too tight or too loose • Check that the feed roll groove is not too worn • Check that the wire conduit is not blocked • Check that there are no spatters on the conduit tip and that the hole is not cramped or worn loose
Main switch indicator light does not switch on	The machine has no supply voltage • Check supply voltage fuses • Check supply voltage cable and plug
Machine welds badly	Welding outcome is influenced by several factors • Check the trimming settings of welding power control and arc length • Check that the earthing clamp is fixed properly.fixing point is clean,and both cable and its connections are undamaged • Check the flow of shielding gas from the tip of the welding gun • Supply voltage is uneven,too low or too high
Over–heating indicator light switches on	The machine has over–heated • Check that cooling air can flow without obstructions • Machine's volume–capacity ratio has been exceeded;wait for the indicator light to switch off • The supply voltage is too low or too high

MODEL / ITEM	MIG-120
Rated Input Current (A)	16.8 (MIG)
Output Current (A)	30-120 (MIG)
Working Voltage (V)	15.5-20.0(MIG)
No-Load Voltage (V)	60
Duty Cycle (%)	40 (MIG)
Power Factor	0.73
Efficiency (%)	85
Insulation Class	F
Protection Class	IP21