

HOMER **tools**

WELDING INVERTER

HOMER E 160

OPERATING MANUAL

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1. INTRODUCTION

Dear consumer,

Company ALFA IN a.s. thanks you for buying our product and believe that you will be satisfied with our machine.

Welding inverter HOMER E 160 of our private brand HOMER tools is aimed for MMA welding.

Welding machine may be operated only by trained persons and only in the technical provisions. Company ALFA IN a.s. accept no responsibility for damage caused by improper use. Before commissioning please read carefully this manual.

S The machines can be used for welding in areas with increased danger of electric shock. Machines comply with the relevant requirements for CE marking.

We reserve the law of adjustments and changes in case of printing errors, change of technical paramaters, accessories etc. without previous notice. These changes may not be reflected in the manuals for use in paper or electronic form.



2. SAFETY PRECAUTIONS

PERSONAL PROTECTION



1. For safety reasons, it is necessary to use welding gloves during welding. These gloves will protect you before intervention of electric current (open circuit voltage). It protects you against thermal radiation and splashing drops of hot metal too. Wear sturdy isolated shoes. Do not wear open shoes, because drops of hot metal can cause burns.
2. Do not look into the welding arc without eye and face protection. Always use good quality welding helmet with intact protective filter.
3. The persons appearing in the vicinity of the welding must be informed of the danger and must be equipped with protective equipment.
4. During welding, especially in small spaces, it is necessary to ensure an adequate supply of fresh air, because during welding, harmful fumes arise.
5. In tanks of gas, oil, fuel, etc., (even empty ones) do not make welding, because there is a chance of explosion.
6. In areas with chance of explosion special provisions are applied.
7. Welding machines that are subjected to great exertion must comply with specific security requirements. These include the rail pressure of the vessel etc. These connections may only be carried out by competently trained welders with the necessary permissions.

SAFETY REGULATIONS

1. Before starting work with welding machine it is necessary to get familiar with applicable provisions of standards.
2. The welder must use protective equipment.
3. Before working on the electrical part, removing the cover or cleaning it is necessary to disconnect the device from the network.

3. OPERATING CONDITIONS

1. Putting the machine into operation can be performed only by trained personnel and only within the technical provisions. The manufacturer is not liable for damages resulting from improper use or handling. For maintenance and repair, use only original spare parts from ALFA IN.
2. Device complies with IEC 61000-3-12.
3. The welding machine is tested according to the degree of protection IP 21S, which provides protection against the intrusion of solid bodies with a diameter greater than 12 mm and protection against ingress of water, falling on the machine in a vertical direction or max degree of 30°.
4. Working ambient temperature between -10 and +40 °C.
5. Relative humidity below 90% at +20 °C.
6. Up to 3000 m altitude.
7. The machine must be positioned so that cooling air can enter and leave through cooling vents with no problem. It is necessary to ensure that there are no mechanical equipment, especially metal particles (e.g. during grinding) drawn into the machine.
8. It is necessary for welding machine to undergo a periodic inspection every 6/12 months by an authorized officer according to ČSN 331500 and ČSN 050630 – see Maintenance and service tests.
9. All interventions in the el. equipment as well as repair (removal of the plug, fuse replacement) should be performed by an authorized person.
10. With competent mains voltage and input must match the plug.
11. HOMER is equipped with function HOT START for perfect arc ignition, function ARC-FORCE which ensures stable arc and with function ANTI-STICK which prevents the electrode sticking to the weldment.

 **Caution**  **Extension cables must not have conductors with a smaller cross section than 3x2,5 mm². The machine can be operated on a single-phase electric generator 9 kVA (1x230V/50Hz) and more, which has ensured voltage stabilization ± 10%. Generators with lower power can damage the machine.**

12. It is necessary to protect the machine against:
 - a. Moisture and rain
 - b. Mechanical damage
 - c. Draft and possibly ventilation of neighboring machines
 - d. Excessive overloading – exceeding tech. parameters
 - e. Rough treatment

ELECTROMAGNETIC COMPATIBILITY

The welding device is in terms of interference designed primarily for industrial areas. It meets the requirements of EN 60974-10 class A and it isn't designed for using in residential areas, where the electrical energy is supplied by public low-voltage power supply network. It can be here potential problems with ensuring of electromagnetic compatibility in this areas, due to interference caused by power lines as well as the radiated interference.


During operation, the device may be the source of interference.

 Caution 

We warn users, that they are responsible for possible interference from welding.

4. TECHNICAL DATA

Method		MMA
Mains voltage	V/Hz	1x230/50-60
Welding current range	A	10 - 160
Open-circuit voltage U_{20}	V	66,0
Mains protection	A	16 @
Max. effective current I_{1eff}	A	15,4
Welding current (DC=100%) I_2	A	80
Welding current (DC=60%) I_2	A	105
Welding current (DC=x%) I_2	A	20% = 160
Protection		IP21S
Standards		EN 60974-1, EN 60974-10 cl. A
Dimensions (w x l x h)	mm	120 x 250 x 210
Weight	kg	3,1

 The machine marked with this symbol can be used for welding in areas with an increased risk of electric shock.

The machine structure is designed so that, in any case, even if the failure rectifier does not exceed the permitted peak value of the open circuit voltage according to EN 60974-1, i.e., 113 V direct current or 68 V alternating.

5. EQUIPMENT

PART OF DELIVERY

1. Operating manual

ACCESSORIES TO ORDER

Item. No.	Description	Picture
V9030034	Welding Cable Set 2x 3m 10-25 160A	
S777c.	Welding Helmet Barracuda S777C Black	
S7SUN9B	Welding Helmet S9B Shooting Blue Shark	
7.511.249	Belt Pegas	

6. OPERATOR CONTROLS

MAIN PARTS OF THE MACHINE

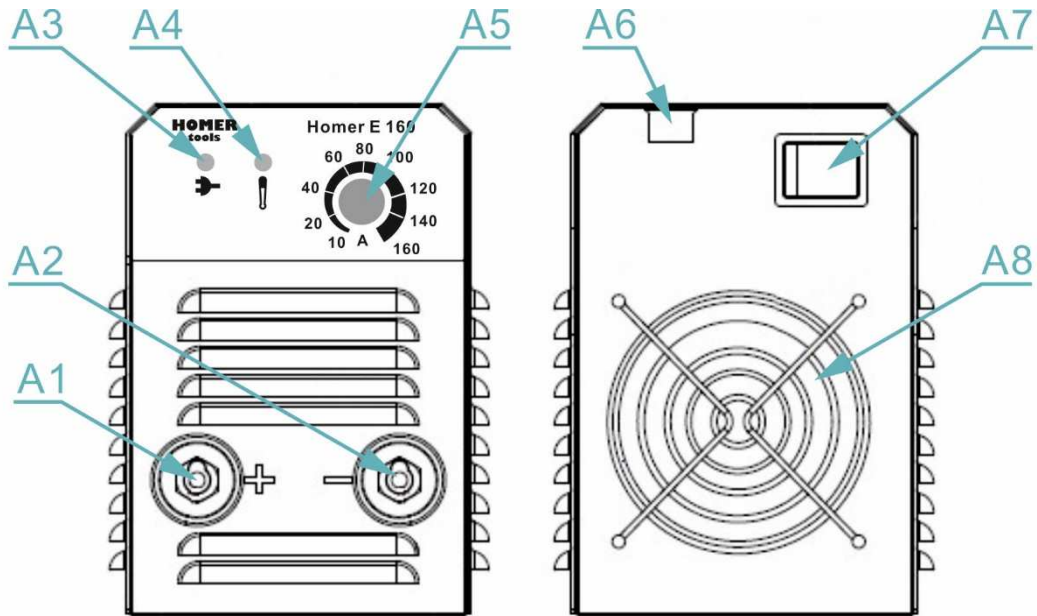


Fig. 1 – Main parts of the machine

Pos.	Description
A1	Quick connector (+)
A2	Quick connector (-)
A3	LED of turning on the machine
A4	LED overheating / overloading
A5	Potentiometer of welding current setting
A6	Mains cable
A7	Main switch
A8	Fan

7. GETTING STARTED

Getting started must be consistent with technical data and conditions of use.

GETTING STARTED MMA – COATED ELECTRODE

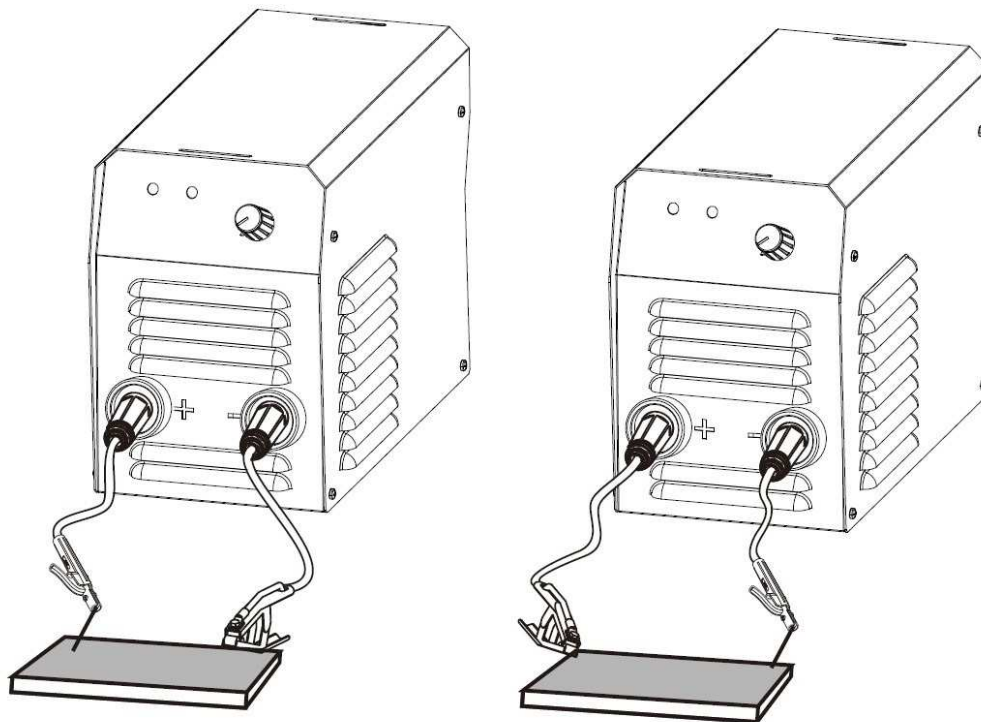


Fig. 2 – Getting started MMA

1. Insert the mains plug into a suitable 1x230 V mains socket, 50-60 Hz. The supply fuses or circuit breaker should correspond to the technical data stated in this manual.
2. Switch the main switch **A7** to the position ON.
3. Connect the electrode holder to the quick connector (+) **A1** and the earthing cable to the quick connector (-) **A2** according the instruction on the electrodes packing.
4. By means of the potentiometer **A5** set the welding current.







 **NOTE**  Prevent touching the electrode any metal material for in this mode the quick connectors **A1** and **A2** are under current. Insert the coated electrode into the electrode holder, connect the clamps of the ground cable to the welding piece and you may start welding.



TABLE OF ELECTRODE CONSUMPTION DURING WELDING

Electrode diameter [mm]	Range of welding current [A]	Total electrode length [mm]	Weight of boiled electrode without slag [g]	Boiled electrode time [s]	Weight of boiled electrode without slag per 1 second [g/s]
1,6	30 - 55	300	4	35	0,11
2,5	70 - 110	350	11	49	0,22
3,2	90 - 140	350	19	60	0,32
4,0	120 - 190	450	39	88	0,44

8. ROUTINE MAINTENANCE & INSPECTION

1. The only routine maintenance required for the HOMER range of machines is a thorough cleaning and inspection, with the frequency depending on the usage and the operating environment.
2.  **WARNING** 
 Disconnect the HOMER from the mains supply voltage before disassembling.
3. Special maintenance is not necessary for the control unit parts in the Welder. If these parts are damaged for any reason, replacement is recommended.
4.  **CAUTION** 
 Do not blow air into the welder during cleaning. Blowing air into the welder can cause metal particles to interfere with sensitive electronic components and cause damage to the welder.
5. To clean the welder, disconnect it from the mains supply voltage then open the enclosure and use a vacuum cleaner to remove any accumulated dirt and dust. The welder should also be wiped clean. If necessary, solvents that are recommended for cleaning electrical apparatus may be used.
6. Troubleshooting and repairing of HOMER welding equipment should only be carried out only by suitably qualified or competent person.
7. A 'competent person' must be a person who has acquired through training, qualification or experience, or a combination of them, the knowledge and skills enabling that person to safely carry out a risk assessment and repairs to the electrical equipment in question.
8. The person carrying out the servicing needs and repairs must know what to look at, what to look for and what to do.

9. STATEMENT OF WARRANTY

1. In accordance with the warranty periods stated below, ALFA IN guarantees the proposed product to be free from defects in material or workmanship when operated in accordance with the written instructions as defined in this operating manual.
2. ALFA IN welding products are manufactured for use by commercial and industrial users and trained personnel with experience in the use and maintenance of electrical welding and cutting equipment.
3. ALFA IN will repair or replace, at its discretion, any warranted parts or components that fail due to defects in material or workmanship within the warranty period. The warranty period begins on the date of sale to the end user.
4. If warranty is being sought, please contact your ALFA IN product supplier for the warranty repair procedure.
5. ALFA IN warranty will not apply to:
 - a. Equipment that has been modified by any other party other than ALFA IN's own service personnel or with prior written consent obtained from ALFA IN Service Department.
 - b. Equipment that has been used beyond the specifications established in the operating manual.
 1. Installation not in accordance with the installation/operating manual.
 - c. Any product that has been subjected to abuse, misuse, negligence or accident.
 - d. Failure to clean and maintain (including lack of lubrication, maintenance and protection), the machine as set forth in the operating, installation or service manual.
6. Within this operating manual are details regarding the maintenance necessary to ensure trouble free operation.
7.  NOTE  Warranty repairs must be performed by either an ALFA IN Service Centre, an ALFA IN distributor or an Authorised Service Agent approved by the company ALFA IN.
8. As a warranty list serves proof of purchase (invoice) on which is the serial number of the machine, eventually a warranty list on the last page of this manual.

10. DISPOSAL



Only for EU countries. Do not dispose of electric tools together with household waste material.

In accordance with European Council Directive 2002/96/EC on electrical and electronic equipment waste and its implementation in accordance with national law, electric tools that have reached the end of their service life must be collected separately and returned to an environmentally compatible recycling facility.

11. WARRANTY LIST

As a warranty list serves proof of purchase (invoice) on which is the serial number of the machine, eventually a warranty list below, which is filled in by an authorized dealer.

Serial number:	
Day, month (written in words) and year of sale:	
Stamp and dealer signature:	