



WELDING MACHINE

HOMER MIG MMA 181

OPERATING MANUAL

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1 INTRODUCTION

Congratulations on your new ALFA IN product. We are proud to have you as our customer and will strive to provide you with the best service and reliability in the industry.

This operating manual has been designed to instruct you on the correct use and operation of your ALFA IN product. Your satisfaction with this product and its safe operation is our ultimate concern. Therefore please take the time to read the entire manual, especially the safety precautions. They will help you to avoid potential hazards that may exist when working with this product.

Read and understand this entire manual and your employer's safety practices before installing, operating, or servicing the equipment. While the information contained in this manual represents the manufacturer's best judgement, the manufacturer assumes no liability for its use.

Welding machine HOMER MIG MMA 181 of our private brand HOMER tools is aimed for MIG/MAG and MMA welding.

The machine can weld various types of joints (butt, single-sided, double-sided, fillet, lap, etc.) using wire diameter from 0.6 to 0.1 mm (for flux cored wire and aluminum wire from 0.8 to 0.1 mm) of different metals and alloys (carbon and alloy steels, aluminum alloys, etc.). HOMER MIG MMA 181 is especially designed for bodywork operations or maintenance work. Very good welding can be achieved under a protective atmosphere of CO₂. The machine welds very well by means of using high-quality self-shielding wire (no gas cylinder and pressure reducer needed). In MMA welding method it is possible to weld with electrode up to diameter 3.2 mm.

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



2 SAFETY INSTRUCTIONS AND WARNINGS

1. OPERATION AND MAINTENANCE OF WELDING EQUIPMENT CAN BE DANGEROUS AND HAZARDOUS TO YOUR HEALTH.
2. Arc welding produces intense electric and magnetic emissions that may interfere with the proper function of cardiac pacemakers, hearing aids, or other electronic health equipment. Persons who work near arc welding applications should consult their medical health professional and the manufacturer of the health equipment to determine whether a hazard exists.
3. Once the packing has been opened, make sure that the machine is not damaged. If in any doubt, call the service center.
4. This equipment must only be used by qualified personnel.
5. During installation, any electric work must only be carried out by trained personnel.
6. The machine must be used in a dry place with good ventilation.
7. Make sure that no metal dust can be drawn in by the fan inside the machine, as this could cause damage to the electronic circuits.
8. It is prohibited to connect more than one generator in series or in parallel.
9. When installing the machine, follow the local regulations on safety.
10. The position of the machine must allow easy access by the operator to the controls and connectors.
11. When the welding machine is operating, all its covers and doors must be closed and well fixed.
12. Do not expose the welding machine to direct sunlight or to heavy rain. This equipment conforms to protection rating IP23S.
13. The operator must wear gloves, clothes, shoes, and a helmet or a welder's helmet, which protect and are fire-resistant in order to protect him against electric shock, flashes and sparks from cutting.
14. The operator must protect his eyes with safety visor or mask designed for welding, fitted with standard safety filters. He should also be aware that during arc welding ULTRAVIOLET RADIATION is emitted. Therefore it is vital that his face is also protected from radiation. Ultraviolet rays produce the same harmful effect as sun burning on unprotected skin.
15. The operator is obliged to warn anyone near the welding area of the risks that welding involves and to arrange to provide adequate protection equipment.
16. Keep all fumes and gases from the breathing area.
17. Keep your head out of the fume plume.
18. Use an air-supplied respirator if ventilation is not adequate to remove all fumes and gases.
19. The kinds of fumes and gases from the plasma arc depend on the kind of metal being used, coatings on the metal, and the different processes. You must be very careful when welding any metals which may contain one or more of the following:

Antimony	Chromium	Mercury
Nickel	Cobalt	Arsenic
Barium	Copper	Selenium
Beryllium	Lead	Silver
Cadmium	Manganese	Vanadium


20. Always read the Material Safety Data Sheets (MSDS) that should be supplied with the material you are using. These MSDSs will give you the information regarding the kind and amount of fumes and gases that may be dangerous to your health.
21. It is very important to arrange for sufficient ventilation, especially when welding in enclosed spaces. We suggest using suitable fume extractors to prevent the risk of intoxication by fumes or gas generated by the welding process.
22. Noise can cause permanent hearing loss. Welding arc processes can cause noise levels to exceed safe limits. You must protect your ears from loud noise to prevent permanent loss of hearing.
23. To protect your hearing from loud noise, wear protective ear plugs and/or ear muffs. Protect others in the workplace.
24. Noise levels should be measured to be sure the decibels (sound) do not exceed safe levels.
25. The operator must ensure all flammable materials are removed from the work area to avoid any risk of fire.
26. The operator must NEVER weld containers that have previously contained petrol, lubricants, gas or similar flammable materials, even if the container has been empty for a considerable time. THERE IS A VERY HIGH RISK OF EXPLOSION.
27. The operator must be aware of all the special regulations which he needs to conform to when cutting in enclosed spaces with a high risk of explosion.
28. To prevent electric shock, we strongly suggest the following rules:
29. Do not work in a damp or humid environment.
30. Do not use the machine if its cables are damaged in any way.
31. Make sure that the earthing system of the electric equipment is correctly connected and operational.
32. The operator must be insulated from the metal components connected to the return wire.
33. The earthing of the piece being worked could increase the risk of injury to the operator.
34. EN 60974-1 Standard: Open-circuit voltage. During the operation of the machine, the highest voltage, with which it is possible to come into contact, is the open-circuit voltage between the clamps.
35. The maximum open-circuit voltage of the plasma machines is established by national and international standards (EN 60974-1) depending on the type of current to be used, on its waveform and on the

hazards arising from the work place. These values are not applicable to the strike currents and those for stabilisation of the arc that could be above it.

36. The open-circuit voltage, for as many adjustments as possible, must never exceed the values relating to the various cases shown in the following table:

Case	Working conditions	Open-circuit voltage	
1	Places with increased risk of electric shock	DC current: 113V peak value	AC current: 68V peak value and 48V effective
2	Places without increased risk of electric shock	DC current: 113V peak value	AC current: 113V peak value and 80V effective
3	Torches held mechanically with increased protection for the operator	DC current: 141V peak value	AC current: 141V peak value and 100V effective
4	Plasma cutting	DC current: 500V peak value	

37. In case 1, the dc machines with rectifier must be built in such a way that, in case of a fault developing in the rectifier (for example open circuit, short circuit or lack of power), the permitted values cannot be exceeded.

The welding machines of this type can be marked with the symbol: 

38. Before opening the machine switch off the machine and disconnect it from the power socket.
39. Only personnel authorized by this company can carry out maintenance on the machine.

WELDING PROTECTIVE UTILITIES

1. Welding helmet with filter shade at least 10
2. Welding gloves
3. Welding apron and cloth
4. Welding boots

RISK OVERVIEW

1. Risk of electric shock
2. Ultraviolet light and light radiation
3. Risk of inhaling gas fumes and dust particles
4. Burns
5. Noise

NOTE

1. It is forbidden to operate a machine with damaged insulation of the welding torch or supply cable.
2. Never operate the machine taken down or damaged covers.
3. It is forbidden to operate the machine in wet environments and outdoors in rain or snow.
4. Ensure proper grounding clamping pliers, which also reduces the risk of electric shock.
5. Use prescribed protective utilities, keep them dry.
6. Arc welding produces intense electric and magnetic emissions that may interfere with the proper function of cardiac pacemakers, hearing aids, or other electronic health equipment. Persons who work near plasma arc cutting applications should consult their medical health professional and the manufacturer of the health equipment to determine whether a hazard exists.
7. Never aim the torch against the eyes, body or other person.

3 CONDITIONS OF USE

1. This equipment must only be used by qualified personnel.
2. During installation, any electric work must only be carried out by trained personnel.
3. Device complies with IEC 61000-3-12.
4. Do not expose the machine to direct sunlight or to rain or snow. This equipment conforms to protection rating IP23S.
5. Working ambient temperature between -10 and +40 °C.
6. Relative humidity below 90% at +20 °C.
7. Up to 3000 m altitude.
8. Place the machine the way that the cooling air can enter the vents without restriction to. It is necessary to ensure that no impurities, especially metal particles are not drawn into the machine.
9. Welding machine in terms of interference suppression is intended primarily for industrial premises. In the case of use of other areas may be need for special measures (see EN 60974-10).
10. The machine must be protected against
 - a. Moisture and rain and snow
 - b. Mechanical damage
 - c. Draft and any ventilation of neighboring machine
 - d. Excessive overloading - crossing technical parameters
 - e. Rough handling
 - f. Chemically aggressive environments

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





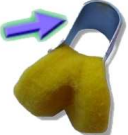

Method		MIG/MAG	MMA
Mains voltage	V/Hz	1x230/50-60	
Welding current range	A	40 - 180	10 - 160
Open-circuit voltage U_{20}	V	71,0	71,0
Mains protection	A	16 @ (20 @)	
Max. effective current I_{1eff}	A	15,7 (15,7)	16,0 (19,3)
Welding current (DC=100%) I_2	A	100 (100)	80 (100)
Welding current (DC=60%) I_2	A	120 (120)	100 (110)
Welding current (DC=x%) I_2	A	15% = 180 (15%=180)	15% = 160 (15%=160)
Protection		IP 23S	
Standards		EN 60974-1, EN 60974-10 cl. A	
Dimensions (w x l x h) compact	mm	215 x 550 x 420	
Weight compact	kg	14,0	
Wire speed	m/min	1,5 - 16,5	---
Spool diameter	mm	200	---
Spool weight	kg	5	---


5 ACCESSORIES

PART OF DELIVERY

Code	Description
5.0534	HOMER MIG MMA 181
	Welding torch 3 m, 150 A
	Earthing cable
	Gas hose
	Roll for sreel wire 0.8 – 1.0 mm
	Operating manual

ACCESSORIES ON REQUEST

Code	Description	Figure
4488-1	Wire 0.8 Coreshield 15 A D200 Self Shielding 0,9kg spool	
6124	Pressure Reducer BASECONTROL Ar 2 manometers	
6125	Pressure Reducer BASECONTROL CO2 2 manometers	
VM0253	Welding Cable Set 2x 3m 35- 50 200A	
VM0304	Cable with E holder 3m 35-50 200A 25mm ²	
V9040095	Wire cleaner - Holder	
V9040133	Wire cleaner - textile	

5.0228-1	Welders Cart HOMER tools	
S777C	Welding Helmet Barracuda S777C Black	
S7SUN9B	Welding Helmet S9B Shooting Blue Shark	

6 DESCRIPTION OF THE APPLIANCE

MAIN PARTS

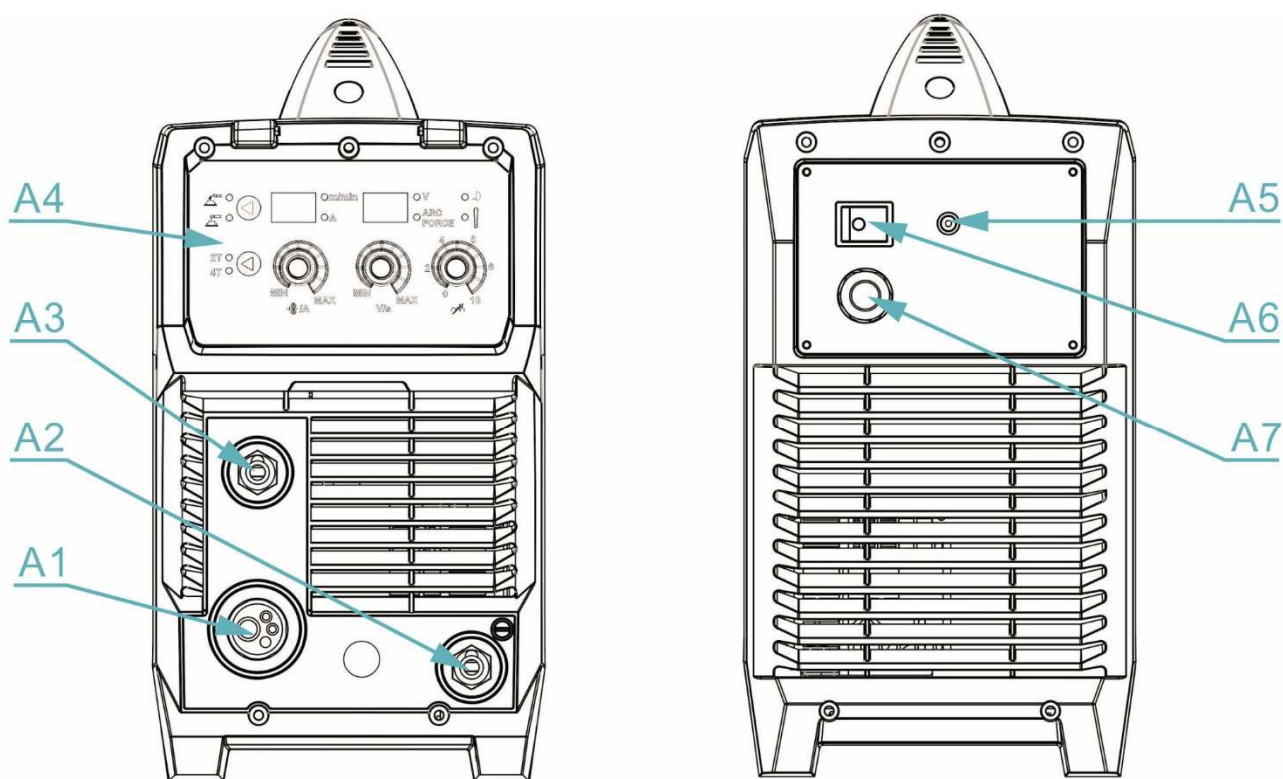


Figure 1 – Main parts of the machine

Pos.	Description
A1	EURO connector for welding torch
A2	Quick connector (-)
A3	Quick connector (+)
A4	Control panel
A5	Gas connector
A6	Switch ON/OFF
A7	Mains cable

CONTROL PANEL

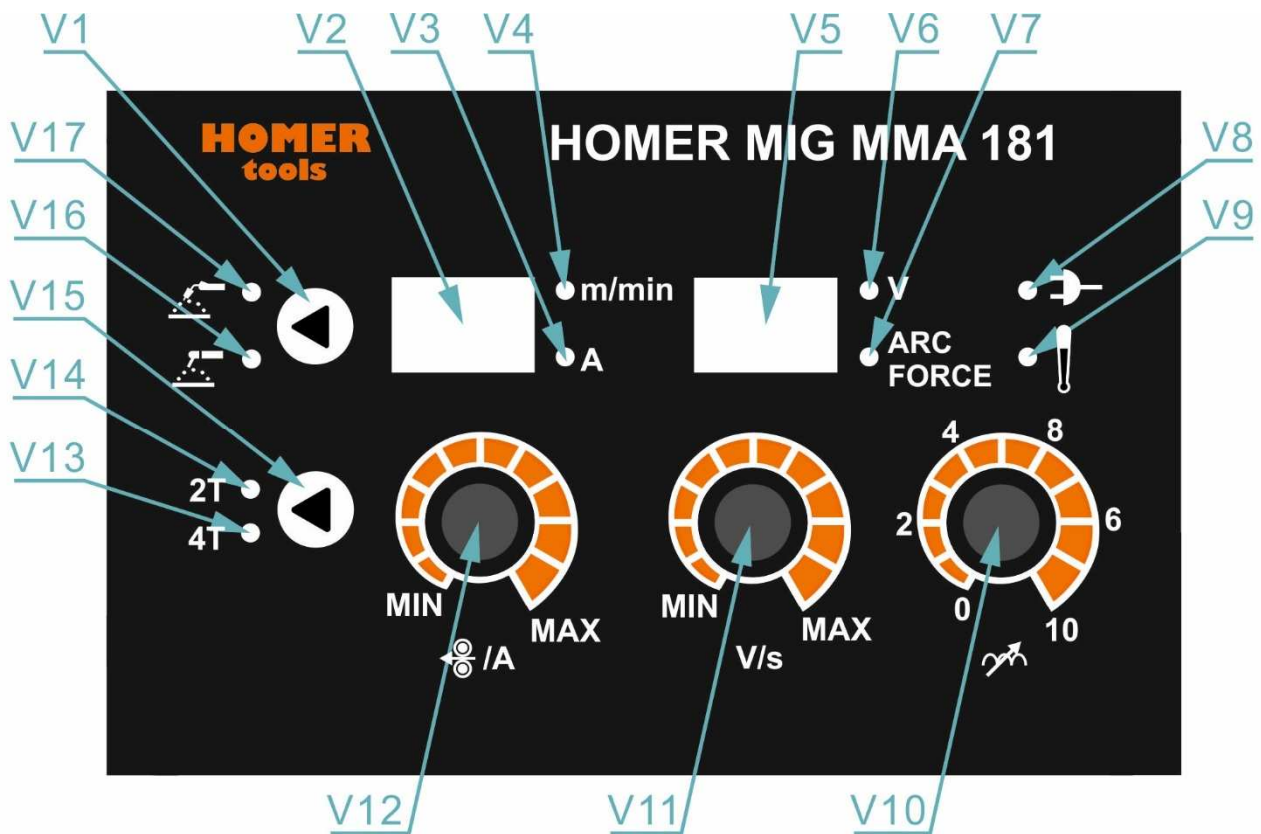


Figure 2 – Control panel

Pos.	Description
V1	Button for welding method selection: MIG/MAG / MMA
V2	Display
V3	LED. If it lights, on the left display is shown welding current in A.
V4	LED. If it lights, on the left display is shown wire feed speed in m/min.
V5	Display
V6	LED. If it lights, on the right display is shown voltage in V.
V7	LED. If it lights, on the right display is shown value of ARC FORCE.
V8	LED. If it lights, the machine is switched on.
V9	LED alarm (If it lights, in mains is overvoltage or undervoltage, or the machine is overheated.)
V10	Choke potentiometer
V11	Potentiometer: <ul style="list-style-type: none"> Voltage for MIG/MAG method ARC FORCE for MMA method
V12	Potentiometer: <ul style="list-style-type: none"> Wire feed speed for MIG/MAG method Welding current for MMA method

V13	LED. If it lights, the mode 4T has been selected.
V14	LED. If it lights, the mode 2T has been selected.
V15	Button: 2T / 4T
V16	LED. If it lights, the MMA method has been selected.
V17	LED. If it lights, the MIG/MAG method has been selected.

WIRE FEEDER

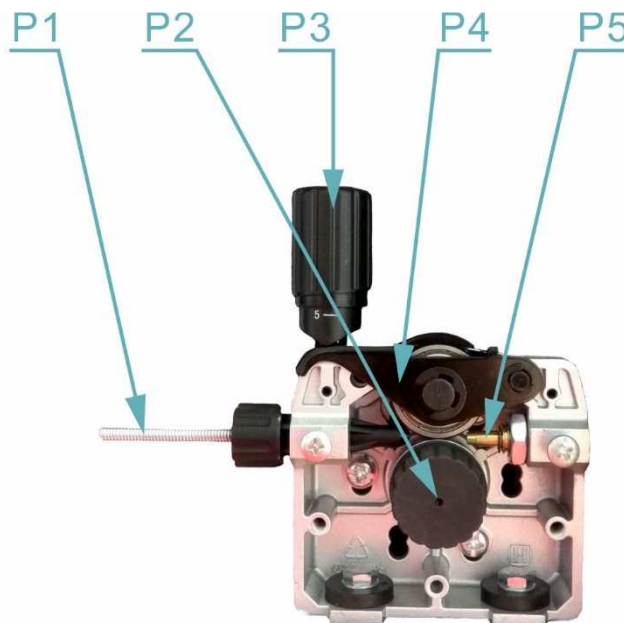


Figure 3 – Wire feeder

Pos.	Order. No.	Description
	6271	Wire feeder Homer MIG MMA 181
P1	6272	Liner Homer MIG MMA 181
P2	6273	Locking nut Homer MIG MMA 181
P2	2187	Roll 0.6-0.8 22/30
P2	2188	Roll 0.8-1.0 22/30
P2	2270	Roll 0.8-1.0 22/30 AL
P2	2318	Roll 0.8-1.0 22/30 TD tube wire
P3	6274	Nut of pressure arm Homer MIG MMA 181
P4	6275	Pressure arm Homer MIG MMA 181
P5	6276	Torch liner Homer MIG MMA 181

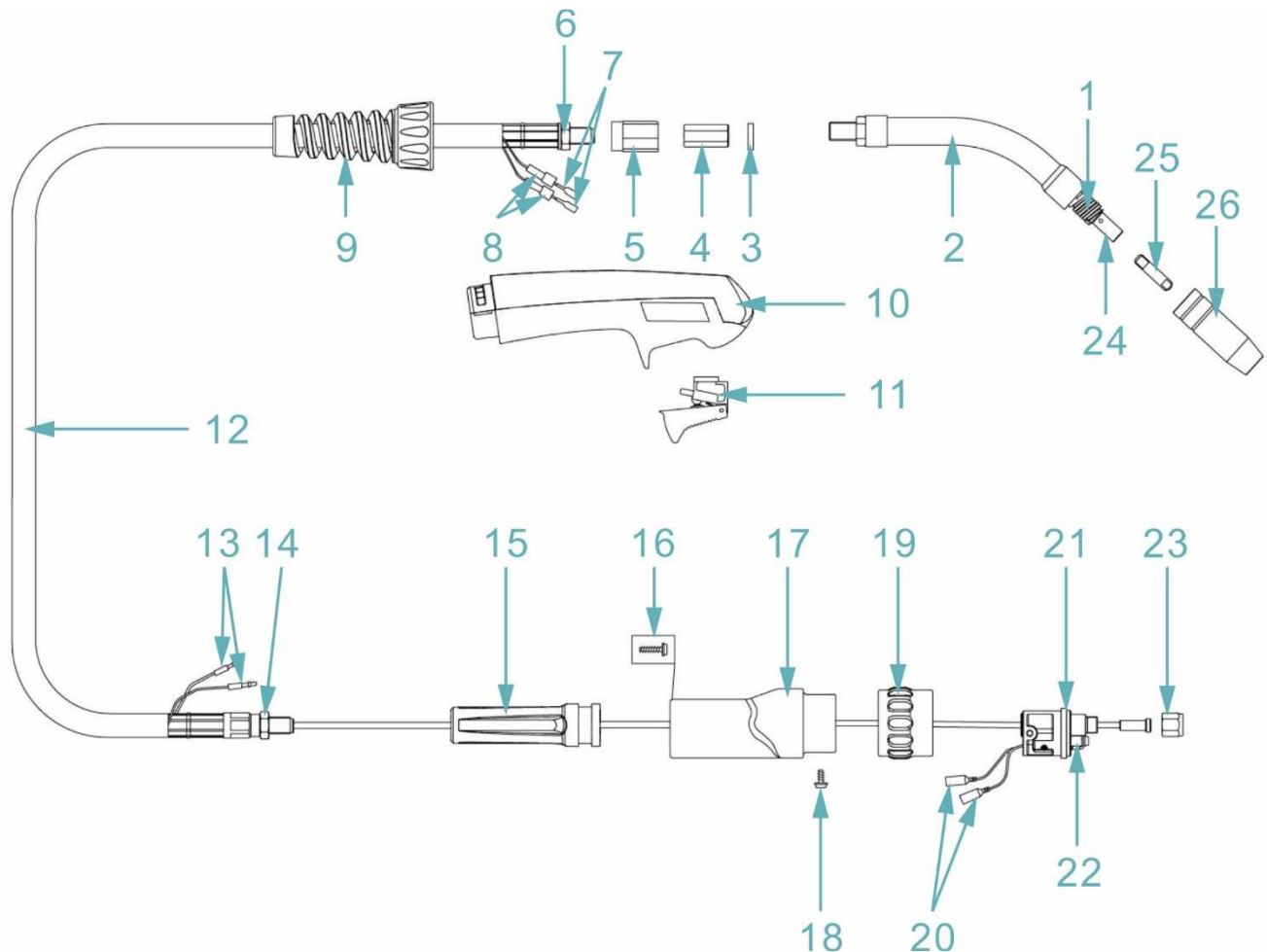


Figure 4 – Spare parts of the torch UNIARC UHB 150

Pos.	Order. No.	Description
1	UB1504	Spring HB 150 AE
2	UB1501	Swan neck HB 150 AE
3	UB2501/5	Swan neck washer HB 150 AE
4	UB2519	Fitting HB 150 AE
5	UML1515	Handle body HB 150 AE
6	UB1505	Nut HB 150 AE
7	UB1521	Cable connector HB 150 AE
8	UB1521-C	Cover of cable connector HB 150 AE
9	UH0815	Handle nut HB 150 AE
10	UH0814M	Handle HB 150 AE
11	UH0816M	Torch trigger HB 150 AE
12	UC1517-30	Torch cable HB 150 AE
13	UB1522	Cable connector male HB 150 AE
14	UB1505	Nut HB 150 AE
15	UC2841	Cable support HB 150 AE
16	UB1542	Locking screw HB 150 AE
17	UC1518	Cover of EURO connector HB 150 AE
18	UB1541	Screw of EURO connector cover HB 150 AE
19	UC1519/P	EURO connector nut HB 150 AE

20	UB1523	Connector of EURO connector male HB 150 AE
21	UC1528	EURO connector HB 150 AE
22	UB1524	O-ring HB 150 AE
23	UB1525	Torch liner nut HB 150 AE
24	PB1507L/H	Tip adaptor MB15AK PARKER
25	PB1527-06	Contact tip 0.6 M6/6/25 MB PARKER
25	PB1527-08	Contact tip 0.8 M6/6/25 MB PARKER
25	PB1527-10	Contact tip 1.0 M6/6/25 MB PARKER
26	PB1529	Nozzle NW16 Cylindrical MB14 PARKER
26	PB1530	Nozzle NW12 Conical MB14,15 PARKER
26	PB1531	Nozzle NW10,5 Conical MB14,15 PARKER
26	PB1532	Nozzle SpotMB14 PARKER

7 GETTING STARTED – MIG/MAG

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

ROLL SELECTION

HOMER MIG MMA 181 is equipped with rolls with two grooves 0.6 – 0.8 mm and 0.8 – 1.0 mm for steel wires. Rolls for aluminium wires (AL) or flux cored wires (TD) are on order.

P2	2187	Roll 0.6-0.8 22/30
P2	2188	Roll 0.8-1.0 22/30 *
P2	2270	Roll 0.8-1.0 22/30 AL
P2	2318	Roll 0.8-1.0 22/30 TD tube wire

* Part of the equipment of the machine

Rolls for the wire feeder must conform to the diameter and material of welding wire. This is the only way to achieve the fluent wire feed. Irregularities of the wire feed lead to the poor-quality welding and wire deformation.

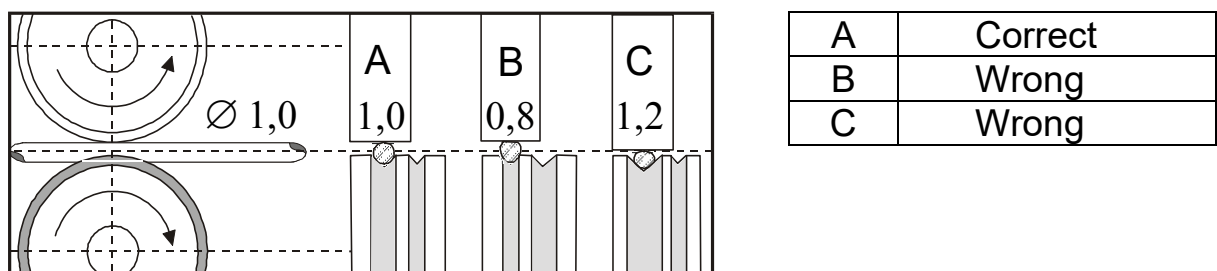


Figure 5 – Roll influence on the welding wire

ADJUSTING THE MACHINE FOR ANOTHER WIRE DIAMETER

Groove can be replaced by removing the roll and rotating it. Roll is marked on one side with symbol 0.6 and on the other side with symbol 0.8 (respectively 0.8 and on the other side 1.0). This symbol, which the user can see when the roll is

in the wire feeder, so this groove is active. For flux cored wire 0.9 or 1.0 is used roll with symbol 1.0.

1. Open the nut **P3** to the left, pressure arm **P4** will be opened upward.
2. Unscrew the locking nut **P2**, rotate the roll **P2** and place it back on the shaft and secure it by screwing the nut.

INSERTING THE WIRE

1. Open the side cover of the wire feeder space.
2. Open the nut **P3** to the left, pressure arm **P4** will be opened upward.
3. Put the wire spool on the wire spool holder and fit it with the fixing nut.
4. Cut off the curved or damaged end of welding wire and lead it through the inlet liner **P1** and the roll **P2** into the torch liner **P5**. Make sure, that you use the suitable groove.
5. Put the pressure arm **P4** down and give back the nut of the pressure arm **P3** to the vertical position.
6. Adjust the pressure of the fixing nut **P3** that way that it provides constant movement of wire but it does not deform wire.

ADJUSTING PRESSURE FORCE OF FEED ROLLS



Important thing for reliable operation of the feeding mechanism is the size of pressure force of feed rolls.

The amount of force depends on the type of welding wire, for aluminum or tube wire, we choose a smaller pressure force.

If the pressure force is too small, slippage may occur and thus irregular wire feeding speed.

If the pressure force is too high, it will lead to increased mechanical wear of bearings and it can damage the machine. Before putting into operation, clean the rolls from preservative oil.

INSERTING THE WIRE TO THE TORCH AND CONNECTION OF EARTHING CABLE

1. Connect the earthing clamps to the welder or to the welding table.
2.  Notice  When inserting the wire do not point with torch to the eyes!
3. Remove the gas nozzle from the torch.
4. Unscrew the current nozzle.
5. Connect the machine to power supply.
6. Turn the ON/OFF switch **A6** to the position I.
7. Press the torch trigger to insert the wire. The welding wire is feed into the torch. After coming off from the torch tube, screw the current nozzle and gas nozzle on.
8. Before welding, spray the area in a gas hose and current nozzle with a separation spray, to prevent damage.

ADJUSTMENT OF GAS FLOW

The electric arc and the weld must be perfectly shielded by gas. Too small amount of gas does not perform the protective atmosphere and on the other hand to big amount of the gas brings air into the electric arc.

1. Fit the gas hose to the outlet on the machine.
2. Open the nut **P3** to the left, pressure arm **P4** will be opened upward. (this prevents the wire feed next to the torch liner **P5**) and press the torch trigger.
3. Turn the adjusting screw **F7** at the bottom side of the pressure reducing valve, until the meter **F6** shows the required flow, the optimum flow is 10-15l/min.
4. After long-term shutdown of the machine or replacement of the torch it is suitable to blow the pipes with protective gas before welding.

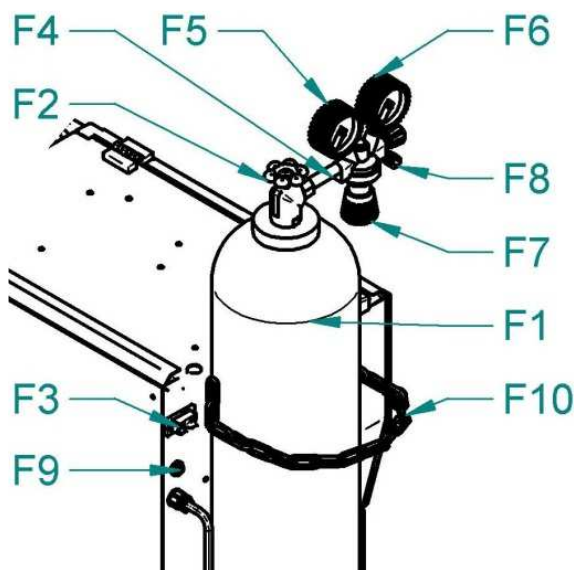


Figure 6 – Adjustment of gas flow (HOMER MIG MMA 181 is not equipped with the bottle holder, figure is only illustrative. The bottle is possible to fix to the cart, which is in Accessories on request.)

Pos.	Description
F1	Gas cylinder
F2	Cylinder valve
F3	Gas heater connector
F4	Pressure reducer
F5	High pressure manometer
F6	Low pressure manometer
F7	Adjusting screw
F8	Gas outlet
F9	Solenoid valve
F10	Chain

FLUX CORED WIRE – POLARITY SELECTION OF MIG/MAG WELDING TORCH

1. It is desirable to have positive polarity on the MIG/MAG torch while welding with solid wire in majority of cases. The welder is supplied from the production with positive polarity on the MIG/MAG torch.
2. For welding with flux cored wires it may be necessary to have negative polarity on the MIG/MAG torch.
3. To change the polarity serves 2 terminals **T1** and **T2** in space of the wire feeder.
4. The interconnecting cable **T3** is from the production connected with the EURO connector **A1** on the front panel of the machine and with the terminal (+) **T1**.
5. In case of welding with flux cored wire with (-) polarity, reconnect the interconnecting cable **T3** from the terminal (+) **T1** to the terminal (-) **T2**. Use Phillips screwdriver.
6. Make sure you fasten the terminals properly.
7. Connect the torch connector to the EURO connector **A1** and the ground cable connect to the quick connector (+) **A3**.



Figure 7 – Terminals for changing the polarity of the MIG/MAG torch

Pos.	Description
T1	Terminal (+)
T2	Terminal (-)
T3	Interconnecting cable

Notice

In case, that you want to weld with flux core wire, it is first necessary to remove the gas nozzle of the torch before starting welding. Furthermore, during the welding process, you must not touch the weldment with the die. There would be a risk of baking the wire.

ADJUSTING OF THE MAIN WELDING PARAMETERS

Before start of welding is necessary to set following welding parameters.

WELDING VOLTAGE

It is set by means of the potentiometer **V11**.

WELDING CURRENT

Size of the welding current depends on the wire feed speed, which is regulated by means of the potentiometer **V12**, and voltage, which is set by means of the potentiometer **V11**.

Duty cycle mean percentage of time cycle of 10 minutes, after which the machine can withstand weld at a given current, without switching off by means of the thermal protection.

Approximate setting for the MIG / MAG welding current and voltage corresponds the empirical relationship $U_2 = 14 + 0.05 I_2$. According to this relationship, we can determine the required voltage. When setting the voltage, we expect the decline in voltage during load. The voltage drop is approximately 4.5-5.0 V at 100 A.

Set the welding current by setting the welding voltage first and then configure the wire feed speed to the point, where the burning of the arc is ideal.

Please note that the actual settings for ideal arc may vary slightly depending on the position of the weld material and voltage fluctuations.

To achieve a good quality of the welds and the optimum setting of the welding current it is necessary to ensure that the distance of the power nozzle from the material was about 10 times the diameter of the welding wire (fig. 8).

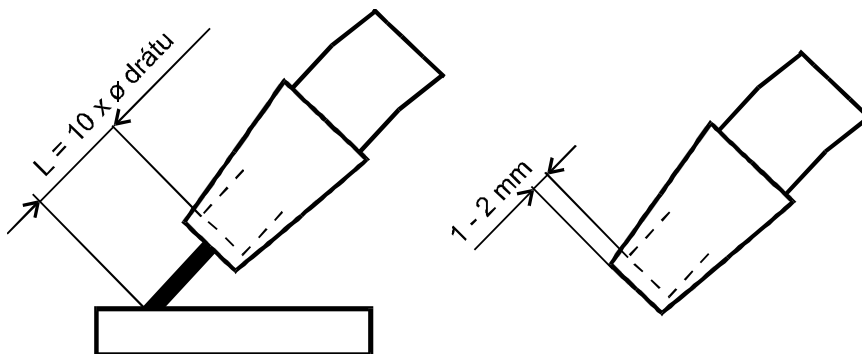




Figure 8 – Distance from nozzle to material

8 GETTING STARTED – MMA

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

1. Connect the electrode holder and the earthing cable to quick connectors **A2** and **A3** according the instructions on the electrode package.

 **NOTE**  **Prevent touching the electrode any metal material for in this mode the quick connector A2 and A3 are under current.**

2. Switch the method switch **V1** to the position MMA (if it is not already switched). LED **V16** will illuminate.
3. By means of the potentiometer **V12** set the required welding current.

9 ROUTINE MAINTENANCE & INSPECTION

The only routine maintenance required for the machines is a thorough cleaning and inspection, with the frequency depending on the usage and the operating environment.

 **WARNING** 

Disconnect the appliance from the mains supply voltage before disassembling.

Special maintenance is not necessary for the control unit parts in the Welder. If these parts are damaged for any reason, replacement is recommended.

 **CAUTION** 

1. 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.
2. 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.
3. Troubleshooting and repairing of HOMER tools welding equipment should only be carried out only by suitably qualified or competent person.
4. 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.
5. The person carrying out the servicing needs and repairs must know what to look at, what to look for and what to do.

10 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.
 - c. Installation not in accordance with the installation/operating manual.
 - d. Any product that has been subjected to abuse, misuse, negligence or accident.
 - e. 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. Warranty repairs must be performed by either an ALFA IN Service Centre, an ALFA IN distributor or an Authorized 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.

11 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.

12 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:	