WELDING MACHINE

aXe 500 IN CRATER FILLER

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 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 ⚠ 🕮.

The machine complies with the appropriate CE mark.

For maintenance and repairs, use only original spare parts. There is of course a complex of our services.

Welding machine aXe 500 IN CRATER FILLER is designed for **MIG/MAG**, **MMA** and gouging.

By the machine aXe 500 IN CRATER FILLER you can weld different types of connections (butt, single-sided, double-sided, fillet, lap, etc.) using wire from diameter 0.8 to 1.2 respectively to 1.6 mm of different metals and alloys (carbon and alloy steels, aluminum alloys, etc.). It is designed primarily to medium and large industrial facilities where are high demands on ease of use, reliability and productivity with prolonged use.

Welding machines aXe 500 IN CRATER FILLER are available in:

aXe 500 IN CRATER FILLER COMPACT H2O - compact welding machine and the option of a water-cooled torch

aXe 500 IN CRATER FILLER H2O - welding machine with separate wire feeder and the option of a water-cooled torch

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

1. Use and maintenance of welding and cutting machines can be dangerous. Please draw user´s attention to follow the safety precautions to avoid injuries. Welding and cutting machines must be used appropriate and only by specialist staff. Please inform yourself constantly about the valid safety precautions and regulations of accident prevention by working with this machine*.
2. Remove all flammable material from the welding area for fire prevention before welding.
3. Do not weld at containers which were filled up before with flammable materials (fuel).
4. All inflammable material in the welding area which could be inflamed by sparks must be removed.
5. Check after welding the place conforming UVV.
6. Do not expose the unit to rain, steam and do not spray water in it.
7. Do not weld without protection shield. Keep attention to protect other persons in the welding area against arc-rays.
8. Please use absorbers or other systems to absorb the gases.
9. It is not possible to absorb all the gases correctly please use a breathing apparatus.
10. Stop operation immediately at a defect or damaging of the mains cable. Do not touch the cable. Unplug the unit before each service or repair. Do not use the machine if the mains cable is defect.
11. Place an extinguisher near the welding area.
12. Check the welding area against fire after welding.
13. Never try to repair a defect pressure reducer. Replace the defect one.
14. Keep attention to connect the ground cable near the welding location. Welding current through chains, ball-bearing or steel-cables may destruct or melt it.
15. Secure yourself and the unit at higher or inclinational places.
16. Connect the unit only at mains with correct connection to ground/earth and at prolongations and sockets too.
17. Wear correct protective clothing, gloves and leather apron.
18. Protect the welding area with curtains or mobile walls against rays.
19. Do not thaw frozen waterpipes or conductions with this unit.
20. In high electrical risk areas (in confined spaces) it is only allowed to use machines with –sign S.
21. Switch off the machine at breaks and close the valve of the gas cylinder.
22. Secure the gas cylinder with a chain against falling over.
23. Please take off the gas cylinder from the machine for transportation.
24. Disconnect the plug from the mains before changing the welding area or repairs at the machine.

*) Please follow the current safety regulations corresponding to your country.

UNIT PROTECTION

1. This unit is protected electronically against overloading.
2. Close the side lid before welding.
3. Connect the workpiece with the groundcable to the unit.
4. Remove welding spatter from the inside of the gas nozzle with a special pair of pliers. Spray with anti spatter spray inside the gas nozzle to avoid adherence of spatters. Spray sloping to avoid the obstruction of the gasoutlet.
5. At transportation of the unit only use the purposed transportation facilities, do not use a fork-lift truck or something similar.

EMISSION OF SOUND

The sound level of the unit is smaller as 70 dB (A) measured at standard load conforming EN 60 974 at the max. workpoint.

NOTE:
Device complies with IEC 61000-3-12.
Working ambient temperature between -10 and +40 °C.
Relative humidity below 90% at +20 °C.
Up to 3000 m altitude.
The stability of the machine is guaranteed up to 10° inclination under the following conditions:

a. The machine must be secured against rolling away
b. The wire feed unit must not be mounted on the generator
c. The gas bottle with a maximum height of 0.9 m may be placed and properly anchored on the platform

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
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.

3. TECHNICAL DATA

aXe 500 IN CRATER FILLER			
Method		MIG/MAG	MMA
Mains voltage	V/Hz	3 x 400/50	
Fuse	A	32 @	
Max. effective current I_{1eff}	A	31,3	30,3
Welding current range	A	40 - 500	10 - 400
Open circuit voltage U_{20}	V	92.0	
Welding current (DC=100%) I_2	A	420	400
Welding current (DC=60%) I_2	A	500	---
Welding current (DC=x%) I_2	A	60%=500	100%=400
Protection		IP 23S	
Standards		EN 60 974-1; EN 60974-10 cl. A	

Generator		
Weight	kg	84,0
Dimensions (W x D x H)	mm	474 x 846 x 956

Compact		
Wire feed speed	m/min	1-25
Spool diameter	mm	300
Spool Weight	kg	18,0
Max. pressure of the gas	Bar	5,0
Weight	kg	99,0

Dimensions (W x D x H)	mm	474 x 876 x 1150

The drive unit		
Wire feed speed	m/min	1-25
Spool diameter	mm	300
Spool Weight	kg	18,0
Max. pressure of the gas	Bar	5,0
Weight	kg	21,5
Dimensions (W x D x H)	mm	270 x 704 x 507
Protection		IP 23S
Standard		EN 60974-5

Cooling Unit		
Cooling capacity (Q=1l/min)	kW	0,74
The total content of liquid (compact)	l	5,0
The total content of liquid (generator)	l	3,5
Max. pressure	Bar	3,5
Max. flow rate	l/min	8,0
Input voltageU_1	V/Hz	230/1~50
Protection		IP 23S
Standard		EN 60974-2

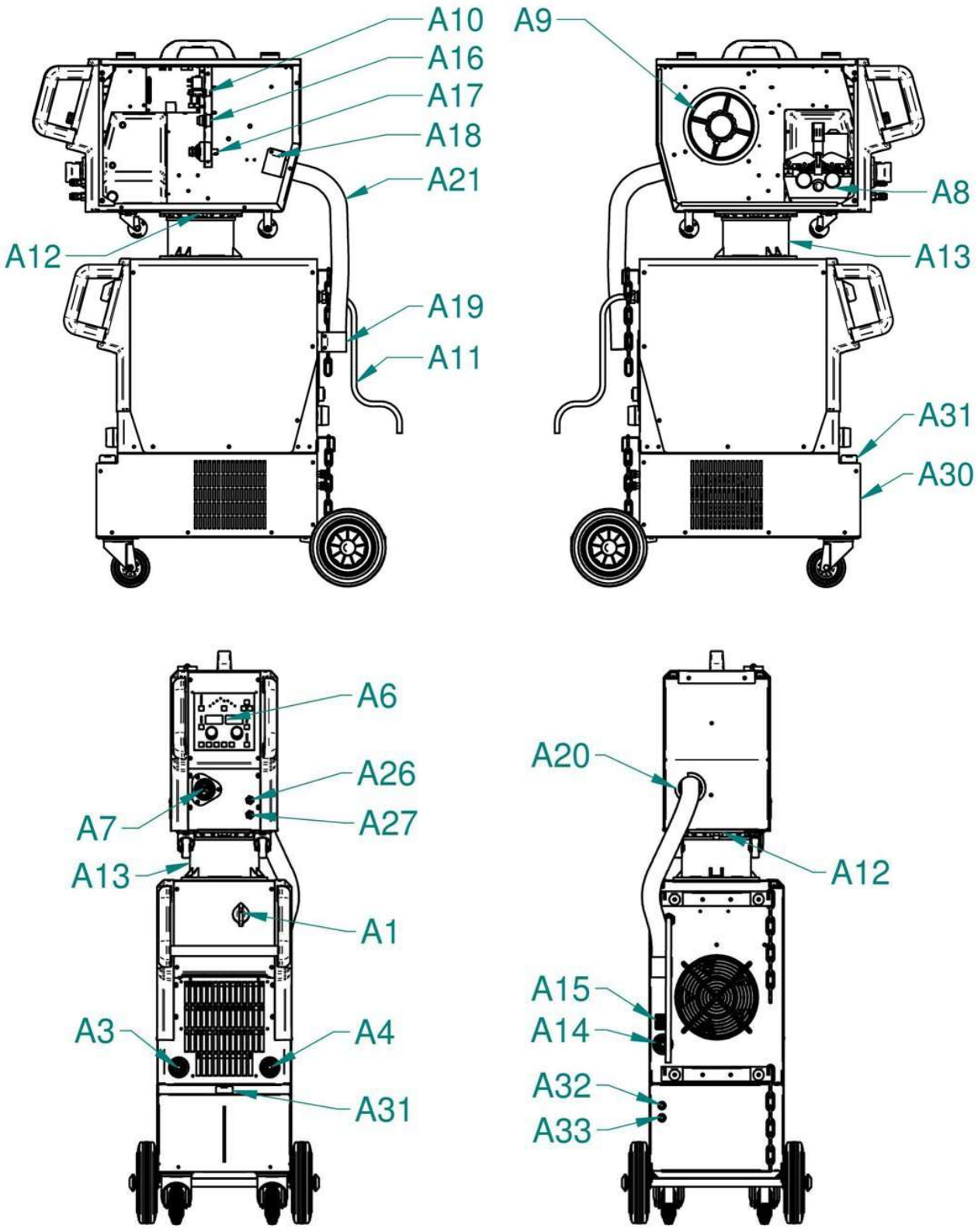
Attention

Given the size of the installed capacity, the connection of the device to the power supply must be approved by distribution companies.

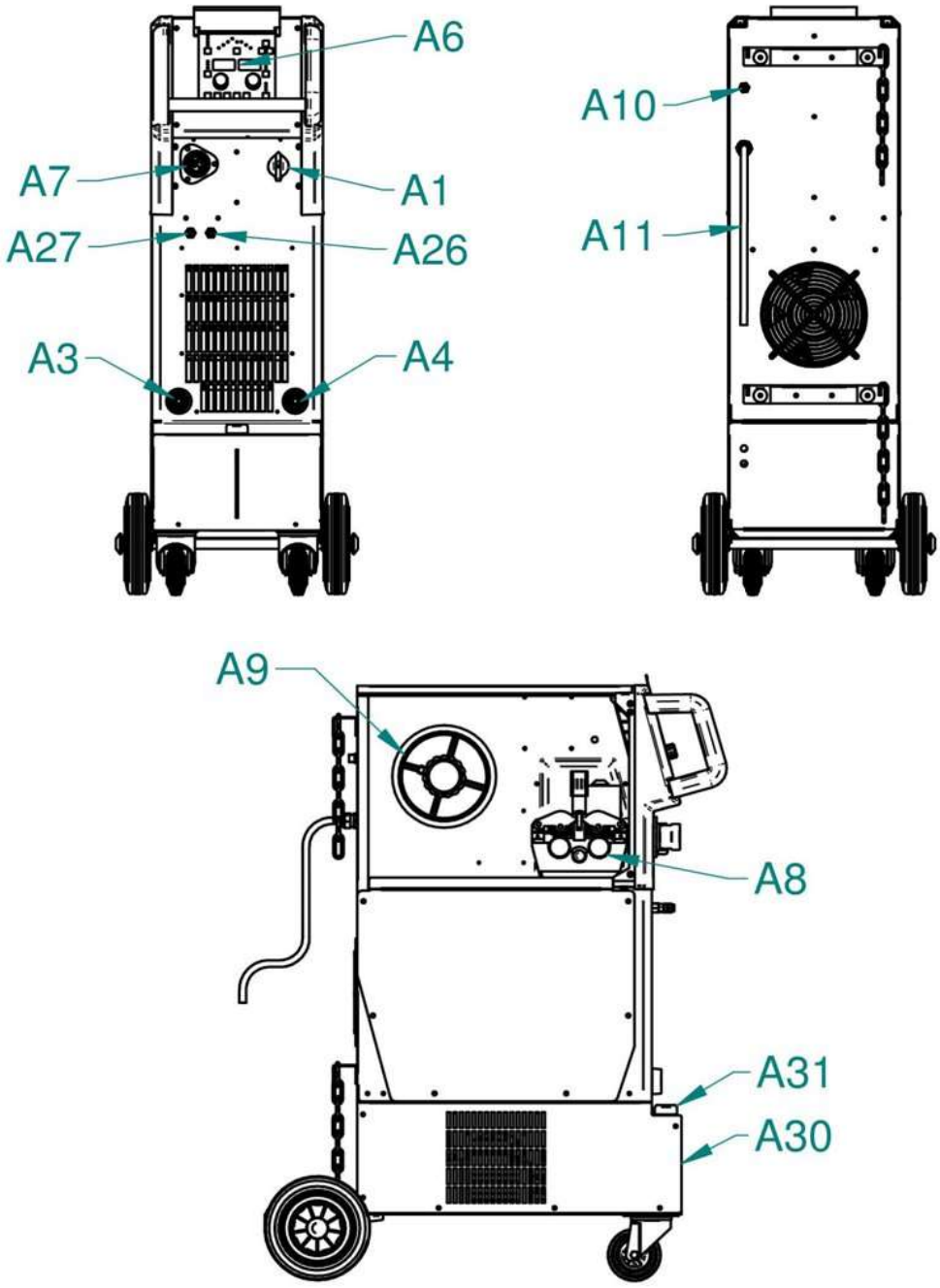
Attention

Users are reminded that they are responsible for any interference from welding.

4. MAIN PARTS OF THE MACHINE



Picture 1 - The main part of the machine aXe 500 IN CRATER FILLER



Picture 2 - The main part of the machine aXe 500 IN CRATER FILLER COMPACT

Pos.	Description
A1	ON/OFF switch
A3	Quick connector (+)
A4	Quick connector (-)
A6	PCB control panel
A7	EURO connector
A8	Wire Feeder

A9	Spool Holder
A10	Solenoid Valve
A11	Mains Cable
A12	Feeder Holder Feede
A13	Feeder Holder Generator
A14	Quick connector
A15	Connector female
A16	Connector male
A17	Quick Connector male
A18	Clamp for the cable Bundle
A19	Clamp for the cable Bundle
A20	Cable Bundle Inlet Feeder
A21	Cable Bundle
A26	Quick connector W (red)
A27	Quick connector W (blue)
A30	CU aXe Cooling unit
A31	Cup
A32	Quick connector W (red)
A33	Quick connector W (blue)

5. ACCESSORIES

SOFTWARE

1. MIG/MAG method – manual
2. Function of quick choice of 3 instant memories
3. Possibility of connecting the torch with the remote control UP-DOWN

INCLUDED IN DELIVERY

1. Power generator + drive unit / COMPACT
2. 3 m long earthing cable with clamps
3. Rolls for wire with diameters from 1.0 to 1.2 mm
4. Reducing for the spool wire 5 kg and 18 kg
5. Hose for gas connection
6. Water hose

ACCESSORIES ON REQUEST

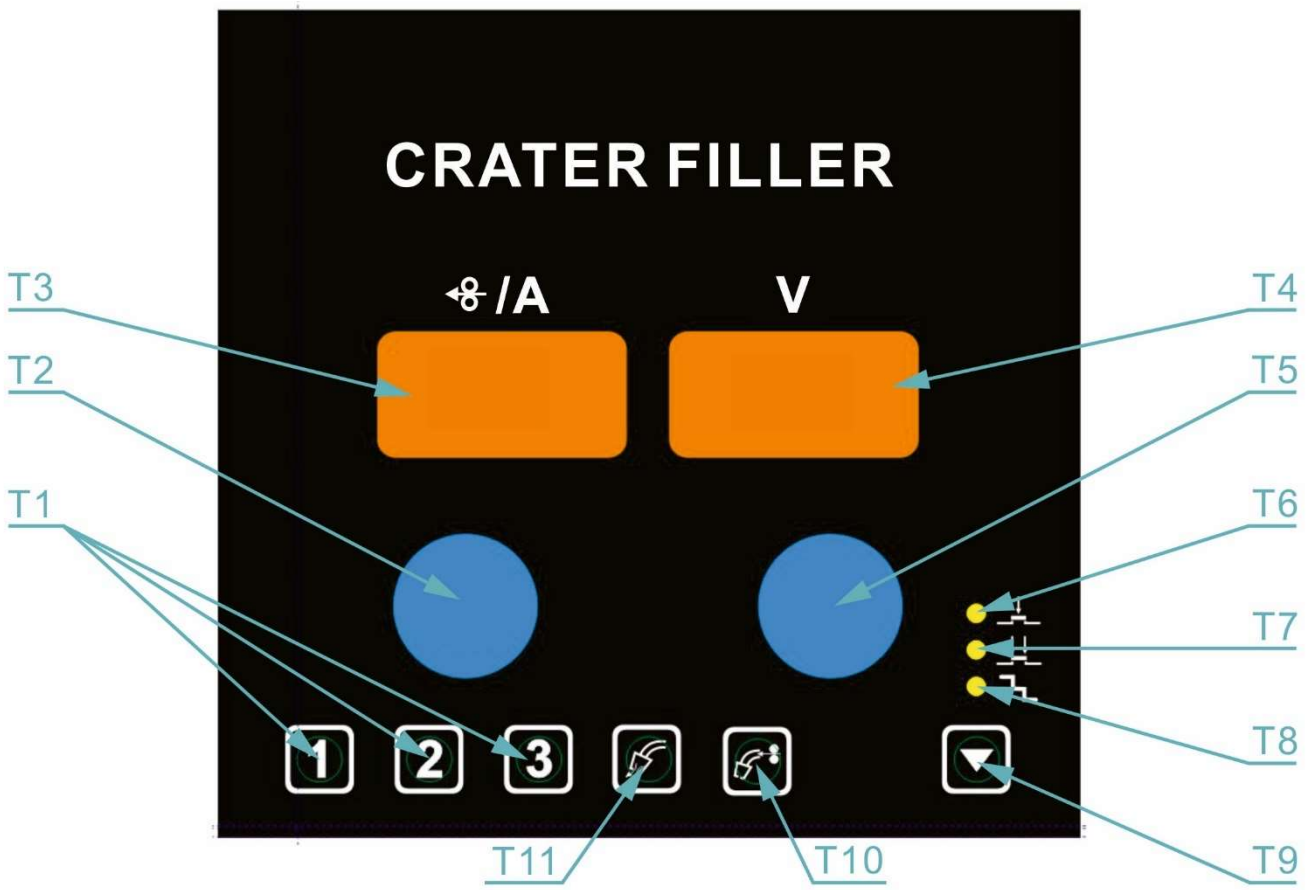
1. MMA method
2. Pressure regulator
3. Wire cleaner
4. Torch holder
5. Spare parts for the torch

6. Earthing cable, lengths 4-5 m
7. Connecting cables 2, 5, 10, 15, 20 m
8. Rolls 0.6-0.8, 1.0-1.2, 1.4-1.6, 1.6-2.4 with different grooves
9. Welding cables for coated electrodes

TORCH ON REQUEST

1. Torch PUSH-PULL up to 25 m
2. Torch PARKER DIGIMIG 501W 3 m – 5 m

6. CONTROL PANEL



Picture 3 – Control panel of the machine

Pos.	Description
T1	Instant JOB buttons (1-3)
T2	Encoder + confirmation button
T3	Left display
T4	Right display
T5	Encoder
T6	LED 2T – two stroke
T7	LED 4T – four stroke
T8	LED steps
T9	Button: 2T/4T/4T steps
T10	Button of inserting the wire

T11	Button of gas test

7. BASIC SETTINGS

SETTING THE METHOD - ENCODER T5

By long pressing (more than 4s) switch between manual method and electrode.

GAS TEST - BUTTON T11 

1. After pressing the button, the gas valve will be opened.
2. If you keep the button pressed for less than 4 s, when you release it the gas valve will switch off the gas supply.
3. If you keep the button pressed for more than 4 s, after 20 s or if you press any button, the gas valve will be turned off.

INSERTING THE WIRE - BUTTON T10 

The wire feeder starts feeding at the speed 15 m/min.

COOLING TEST:  + 

When long pressing (more than 4s) buttons **T11** and **T10** at the same time the fan and pump will start running. To stop, press any button.

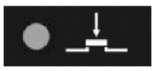
8. MIG/MAG MANUAL

1. Left display **T3** shows the wire feed speed, right display **T4** shows voltage.
2. By means of the encoder **T2** set wire feed speed.
3. By means of the encoder **T5** adjust voltage.
4. By means of the button **T9** you can switch between modes: **2T**/**4T**/**steps**. **Note: For mode steps you must have saved 3 JOBs!**
5. During welding left display **T3** shows value of welding current and right display **T4** shows value of voltage.
6. After end of welding on displays stay measured values (**HOLD**) for 6 s.
7. If the torch with remote control is connected, the display on the torch will show the wire speed, voltage or choke. Use UP-DOWN rocker button to set the displayed value, round button changes the function. In case the JOB function is sellected, it is possible switch among the active JOBs by means of the UD buttons of th torch.

9. MMA METHOD

1. Right display **T4** shows **ELE**, left display **T3** shows set current value.
2. By means of the encoder **T2** set the welding current.
3. During welding display shows measured value of welding current.
4. After end of welding on displays stay measured value (**HOLD**) for 6 s.
5. If is connected the torch with remote control, on its display is shown **ELE**.
6. If the MIG/MAG torch stays connected, on this torch will be welding voltage!

10. MODE 2T/4T/STEPS

2T - TWO STROKE: 

1. Tact – press and hold the torch button	the machine will start welding
2. Tact – release the torch button	the machine will stop

4T- FOUR STROKE: 

1. Tact – press and hold the torch button	the machine will start welding
2. Tact – release the torch button	the machine will continue
3. Tact – press the torch button	the machine will stop
4. Tact – release the torch button	

FOUR STROKE STEPS: 

1. Tact – press and hold the torch button	the machine will start welding with the start current **JOB1**
2. Tact – release the torch button	the machine will continue with the main current **JOB2**
3. Tact – press the torch button	the machine will continue welding with the final current **JOB3**
4. Tact – release the torch button	the machine will stop

11. SECONDARY PARAMETERS MENU

1. By simultaneously pressing button **T9** and encoder **T2** enter the menu for secondary parameters.
2. By means of the encoder **T2** select (**ISP**, **PrG**, **PoG**, **brn**, **Ind**, **CAL**), by means of the encoder **T5** set the desired value.
3. By pressing the encoder **T2** confirm set values. By pressing any button or after 10 s leave the menu.
4. The secondary parameters are the same for either manual or synergy modes.

Symbol	Meaining	Range (Default)
ISP (Initial speed)	Approaching speed	10 - 100 % (30 %).
PrG (Pre gas time)	Pre gas	0 - 20 s (0,1 sec).
PoG (Post gas time)	Post gas	0 - 20 s (0,5 sec).
brn (Burnback)	Burnback	0 - 75 ms (35 ms)
Ind (Inductance)	Inductance	0 – 99 % (30 %)
CAL (Calibrarion menu)	Calibrarion menu	x.xx (software version – for service use only)

5. By long pressing the button **T1[2]** show the configuration of Control PCB (left display **T3** shows power of the machine 500, right display **T4** shows 0/1 - the function of cutting the ball off at the end of welding is OFF/ON).
6. By long pressing the button **T1[3]** show the welding time in hours.

12. RESET

”LARGE RESET“

1. Pressing **T9** + **T11** at the same time more than 4 s makes RESET – default parameters will be restored.
2. It will delete saved JOBs!

”SMALL RESET“

1. Pressing **T9** + **T10** at the same time more than 4 s makes RESET – default parameters will be restored.
2. Saved JOBs will not be deleted!

13. SAVING AND LOADING WELDING PARAMETERS (JOBS)

QUICK JOB CHOICE

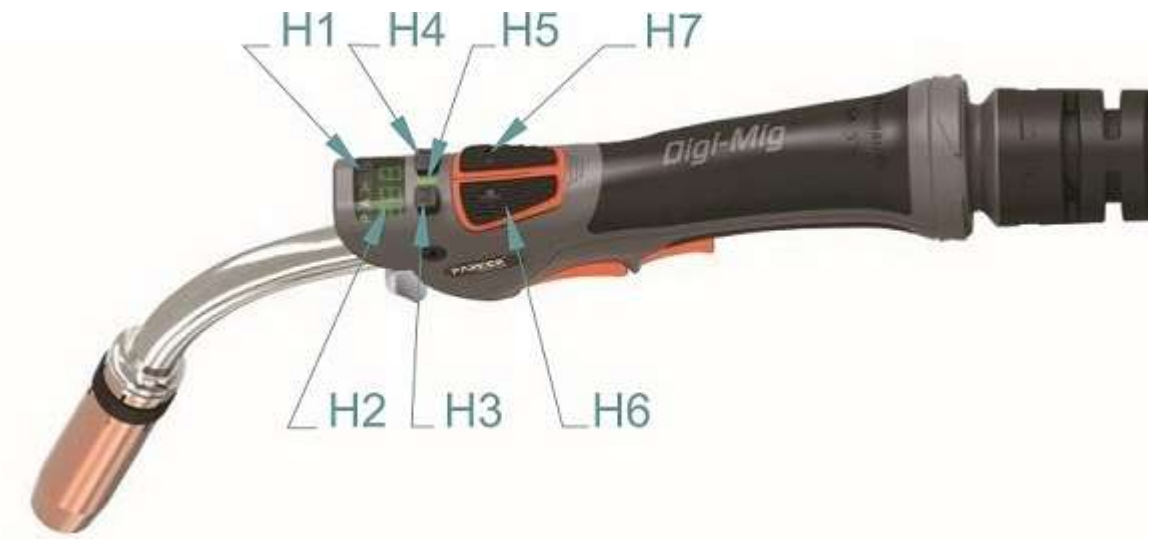
1. By long pressing buttons **T1[1]** and **T1[3]** save set parameters to the memory.
2. By short pressing buttons **T1[1]** and **T1[3]** load saved parameters from the memory.
3. By simultaneously long pressing buttons **T9** and **T1[1]** activate possibility of JOB choice by the remote control.
4. By simultaneously short pressing buttons **T9** and **T1[1]** deactivate possibility of JOB choice by the remote control.

14. REMOTE CONTROL

JOB SELECTION WITH REMOTE CONTROL

See chapter 13. SAVING AND LOADING WELDING PARAMETERS (JOBs).

JOB SELECTION WITH REMOTE CONTROL



Picture 4 - Remote control from the torch

Pos.	Description
H1	Display of remote control
H2	Display
H3	Torch button M for choosing the function

	MAN: Wire speed, Voltage/Choke, JOB (See How to switch on the remote control of JOBs on below) SYN: Power, Correction/Choke, JOB
H4	Torch button LOCK lock/unlock the buttons UP/DOWN and M The UP/DOWN and M buttons get automatically locked when the torch trigger is pressed.
H5	When the LED is on it indicates UP/DOWN and M button are functioning.
H6	Torch button UP
H7	Torch button DOWN

Symbols on the torch display **H1**	
Symbol	Description
	Wire speed setting (MAN)
No symbol	Voltage setting (MAN)
Symbols on the torch display **H2**	
J.xx	JOBs (xx – JOB No.)
I.xx	Choke level (MAN). (Only with firmware 2015 and newer)
ELE	Machine is in MMA (Electrode) mode

15. ERROR MESSAGES

1. Left display **T3** shows **Err**, right display **T4** shows number of the error.
2. To remove the error, press the encoder **T2**.

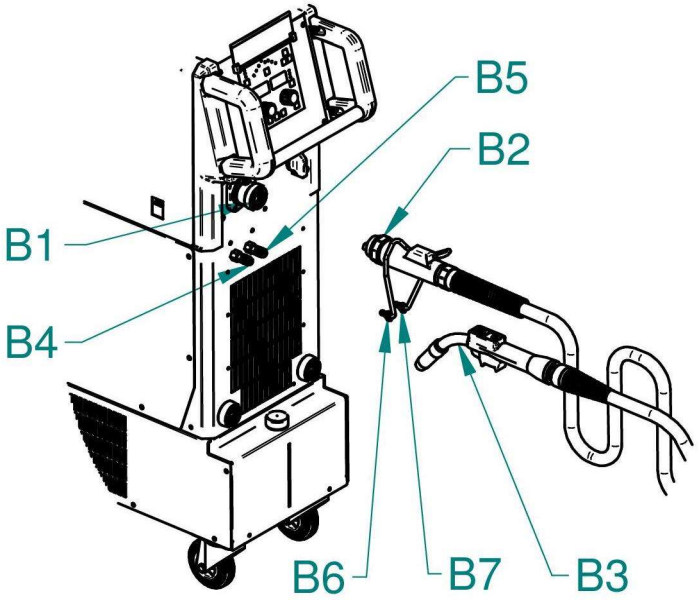
ERR 1	Overheating of the machine. Let the machine cool down. **DON'T SWITCH OFF THE MACHINE!**
	Power failure, phase missing.
ERR 2	Small liquid pressure. Check the fluid level in the tank or clean water circuit.

16. GETTING STARTED – MIG/MAG

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

TORCH INSTALATION

1. Never connect the torch in the machine if it's still running!
2. Connect the EURO connector male **B2** to EURO connector **B1**. Then, connect Quick connector torch W (red) **B6** to the Quick connector W (red) **B4** and the Quick connector torch W (blue) **B7** to the Quick connector W (blue) **B5**.
3. When connecting a gas-cooled torch, it is necessary to interconnect the quick connectors with water hose of the hydraulic circuit. If this condition is not met, it may result in damage to the pump.



Picture 5 – Torch instalation

COOLING SYSTEM OF THE WATER-COOLED TORCH

1. Cooling unit **A30** is located at the bottom of the machine.
2. In this ALFA IN machine is the pump seal specially designed for the cooling liquid ACL-10 (pink colour, ordering number: 4600, 5 l canister. Working area – ambient temperature -10 °C to +40 °C).
3. When using other liquid, it may cause the leakage of the cooling circuit. The manufacturer's warranty is not applicable to defects in the cooling circuit when using liquids other than ACL-10.
4. We recommend replacing the liquid completely in one to three years. The liquid must not be mixed with any other kind of liquid. The process of replacing the liquid can be found on the internet address https://www.alfain.eu/static/_dokumenty/1/2/9/7/1/1/Vymena-chladici-kapaliny1-navod-CZ.pdf

5. Liquid level in the tank must be between maximum and minimum. (The maximum is the upper limit of the watermark and the minimum is half the scale on the watermark after complete filling of the water circuit of the machine.)
   If an error message "**ERR 2**" - **Small liquid pressure** lights up during operation, turn off the main switch and check the liquid level on the watermark. After turning on the machine perform the cooling unit test. If the error recurs, the cause of the fault must be determined.
6. Liquid ACL-10 is not poisonous. However, due to its operation in the pump, the replaced liquid dispose of as hazardous waste. Do not burden the environment. In the worst case, take it to a collection yard in the original canister. You can find the safety data sheet on the link https://www.alfain.eu/static/_dokumenty/1/3/0/5/4/7/Safety-data-sheet-ACL-10.pdf
7. Note: When connecting a gas-cooled torch, it is necessary to interconnect the quick connectors with water hose of the hydraulic circuit. If this condition is not met, it may result in damage to the pump.

VENTING THE COOLING SYSTEM OF THE TORCH

After filling the empty cooling system of the torch (even in case of extensive leakage and venting) it is necessary to deaerate a complete circuit.

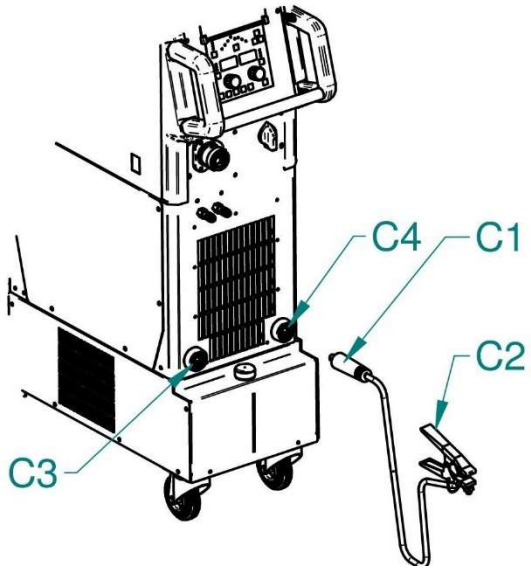
1. Remove the cover from the coolant reservoir and interconnect the quick connectors with water hose of the hydraulic circuit.
2. Run cooling test for about 30 seconds.
3. Plug the torch and run the cooling test for about 30 seconds.
4. If the "**ERR 2**" – **Small liquid pressure** shows after you press the torch button, it is necessary to repeat the procedure.

EARTHING CABLE CONNECTION

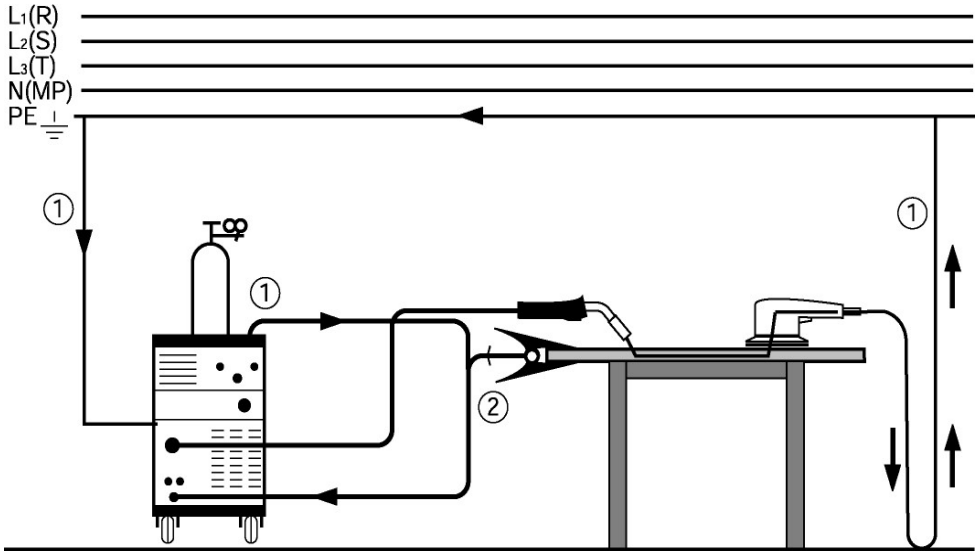
Connect the quick connector of the earthing cable **C1** to the quick connector located on the machine **C4** (-), secure it thoroughly by turning it clockwise. Attach the earthing clamp to weldment **C2**.

EARTHING CLAMP CONNECTION

Attach the earthing clamp near the weld. It is important to ensure that the connection with workpiece is as strong as possible.



Picture 6 - Earthing clamp connection



Picture 7 - Earthing clamp connection

① Do not place the earthing clamp on the welding machine or a gas bottle!

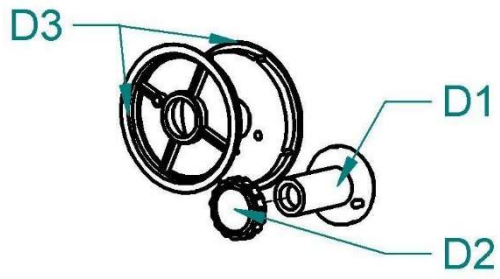
② Firmly connect the earthing clamp to weldment or welding table.

CONNECTING TO POWER SUPPLY

Plug the power plug into the wall socket. Circuit breakers must conform to the technical dates of the machine.

INSERTING THE WIRE SPOOL

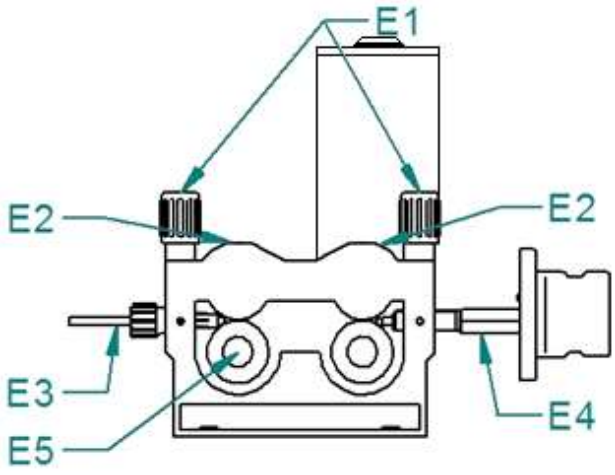
1. Open the wire feed door and loosen nut **D2** on spool holder **D1**. Insert the wire spool reducer **D3** and the wire spool onto it, secure by screwing in the nut **D2**. Before that, it must be ensured that the mandrel is inserted into the appropriate hole in the reducer or coil of wire.
2. If necessary, you can adjust the braking force with the screw so that the wire does not unwind from the spool after the wire feed has stopped.



Picture 8 – Wire spool holder

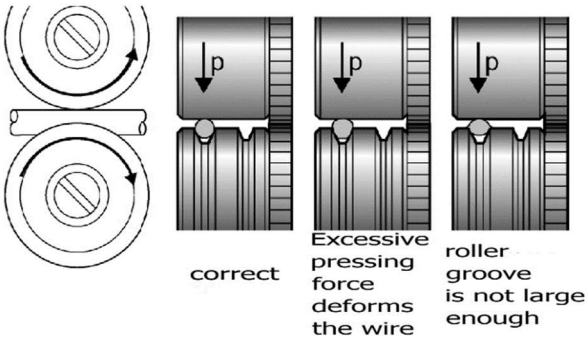
INSERTING THE WIRE

1. Open the wire feed door and loosen nut **D2** on spool holder **D1**. Insert the wire spool reducer **D3** and the wire spool onto it, secure by screwing in the nut **D2**. Before that, it must be ensured that the mandrel is inserted into the appropriate hole in the reducer or coil of wire.
2. Press the pressure rollers **E2** and fix with nuts **E1**.
3. Switch on the machine with the main switch, run the welding torch cable and press the wire guide button.
4. Adjust the pressure force by turning the plastic parts on the E1 nuts so that the wire is not deformed, but at the same time to have a regular wire feed.
5. Press and hold the wire guide button again until the wire appears at the end of the torch.



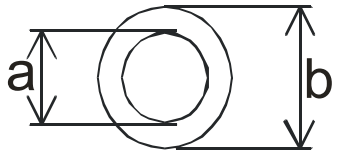
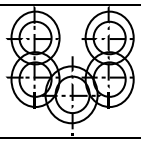
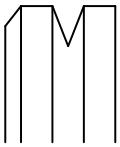
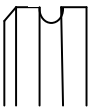
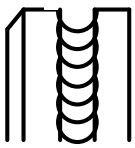
Poz.	Description
E1	Nut of pressure arm
E2	Pressure arm
E3	Inlet liner
E4	EURO connector
E5	Roll

Picture 9 - 4-roller fee



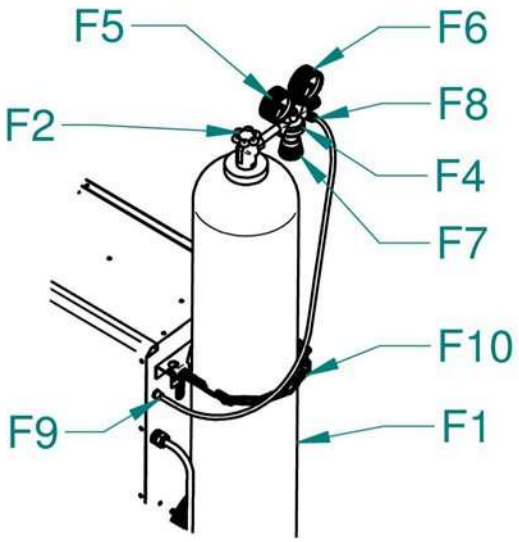
Picture 10 – Roller impact on the welding wire

FEED ROLLS

		4 rolls
		
		a = 19 mm
		b = 37 mm
Groove type	Wire diameter	Item No
Steel 	0,6-0,8	4299
	0,8-1,0	4300
	1,0-1,2	4301
	1,2-1,6	4302
Aluminum 	1,0-1,2	4306
	1,2-1,6	4307
	1,6-2,0	4308
	2,4-3,2	4309
Flux core 	1,0-1,2	4303
	1,2-1,6	4304
	2,4-3,2	4305

GAS FLOW

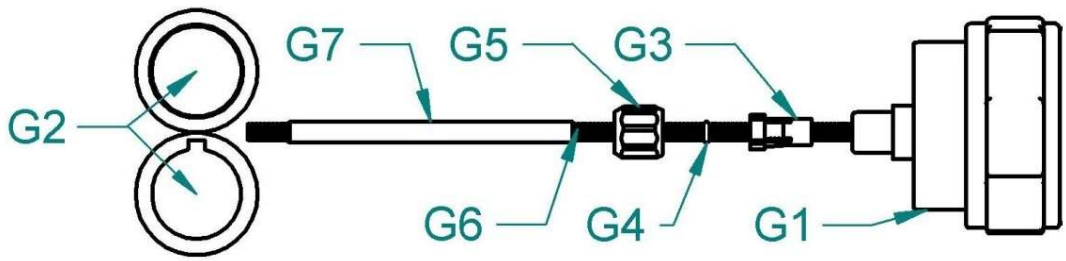
1. Place the gas cylinder on the platform and fix it properly by the fixing chain. We recommend using bolts and nuts to fix it more safely.
2. Connect the pressure reduction valve on the gas cylinder.
3. Connect the gas hose to gas outlet **F8** on the valve and the gas inlet **F9** on the machine.
4. Open the **F2** cylinder valve.
5. Press the button Gas test **T11** for more then 4 s.
6. Adjust the amount of gas on the reduction gas valve (it is not a part of the welding machine) by the **F7** adjusting screw.



Picture 11 - Adjusting the gas flow

ADJUSTING THE MACHINE FOR WELDING OF ALUMINIUM

1. Replace the rollers for rollers with U-profile of the groove (for AL welding)
2. Replace the torch used on steel for aluminum torch or at least replace the liner for Liner tefl. **G6**.
3. Replace the capillary from the EURO connector **G1**.
4. Cut end of the teflon liner **G6** so that it is near the rollers.
5. Thread the end of the teflon liner with sustainpipe for teflon and plastic liner **G7** for stabilization.
6. Put the torch on the EURO connector **G1** and insert the wire.



Picture 12 – Customization of the feed for the aluminum wire

Pos.	Description
G1	EURO connector
G2	Rolls
G3	Liner terminal
G4	O - ring
G5	Nut
G6	Liner tefl.
G7	Sustainpipe for teflon and plastic liner

TABLE OF WIRE CONSUMPTION DURING WELDING

Wire diameter [mm]	Range of wire feed speed [m/min]	Maximal wire feed speed [m/min]	Weight of 1 m wire [g]	Wire consumption per 1 minute of welding [g/min]	Wire consumption per 1 hour of welding [g/hour]
Steel wire					
0,6	2 - 5	5	2,3	11,5	690
0,8	3 - 6	6	4	24	1440
1,0	3 - 12	12	6	72	4320
1,2	4 -18	18	9	162	9720
Stainless steel wire					
0,6	2 - 5	5	2,3	11,5	690
0,8	3 - 6	6	4	24	1440
1,0	3 - 12	12	6	72	4320
1,2	4 -18	18	9	162	9720
Aluminum wire					
0,6	2 - 5	5	0,8	4	240
0,8	3 - 6	6	1,3	7,8	468
1,0	3 - 12	12	2	24	1440
1,2	4 -18	18	3	54	3240

TABLE OF GAS CONSUMPTION DURING WELDING

Wire diameter [mm]	Gas flow [l/min]	Gas consumption per 1 hour of welding [l/hour]
0,6	6	6 * 60 = 360
0,8	8	8 * 60 = 480
1,0	10	10 * 60 = 600
1,2	12	12 * 60 = 720
1,6	16	16 * 60 = 960
2,0	20	20 * 60 = 1200

17. GETTNG STARTED – MMA

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

1. Disconnect the MIG/MAG torch. If it is left connected, the welding voltage will be on it!
2. Earthing cable cable of the electrode holder connect to quick connectors **A3** and **A4**, secure it thoroughly by turning it clockwise. Select the polarity according to the instructions on the packaging of the electrode you will weld with.
3. Attach the earthing clamp **C2** to the weldment. Attach the earthing clamp near the weld. It is important to ensure that the connection with workpiece is as strong as possible.
4. Place the electrode into the electrode holder.
5. Turn on the machine with the main switch **A1**.
6. By long pressing (4 s) the encoder **T2** select the MMA method. For security reasons it is impossible to turn on the machine while this method is selected.
7. The requested current can be set by the encoder **T2**. The setting of the current can be saved in the JOB. The JOB can not be set as active.
8. You can 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

18. ROUTINE MAINTENANCE & INSPECTION

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

WARNING

Disconnect the ALF 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 ALF 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.

19. 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.

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.

7. 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.
8. The manufacturer's warranty is not applicable to defects in the cooling circuit when using liquids other than ACL-10.

20. 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.

21. 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:	