



User manual for MIG/MAG semiautomatic welding machine

Fanmig 201 LCD MOST











Warning! A copy of this manual should be located in the place of device use and should always remain available to the operator.



Thank you for purchasing **Fanmig 201 LCD** a semi-automatic welding machine by MOST. We do believe that this product will meet your requirements. Before starting the work and in order to ensure correct use of the device please familiarize yourself with this User Manual

1. Health and Safety Manual

Warning! The device is may not be used for the purpose of pipe defrosting! Information included on icons located on the device.

	<p>Use and maintenance of welding equipment may be dangerous. The user must observe health and safety rules and regulations. Welding and cutting machines may be used only by qualified personnel. Follow your local rules and regulations on working with that type of devices and prevention of accidents.</p>
	<p>Prior to starting your work remove all flammables from the welding area. Welding inside tanks previously used as flammable liquids storage is forbidden. Place any flammables in a safe location away from welding spatter.</p>
	<p>Do not expose the device to rain, water vapour and do not spray water over it.</p>
	<p>Do not start welding without proper eye protection equipment. Also protect other people against generated radiation.</p>
	<p>Use ventilation and filters in order to remove welding fumes from the work site. Use individual filters if the filtering/ventilation system does not operate correctly or is not available.</p>
	<p>Stop your work immediately after finding damage to the power cords. Do not touch the damaged cords. Prior a repair or maintenance disconnect the device from power source. Never use the device with damaged power cords.</p>
	<p>Keep a fire extinguisher close to the welding location. After finishing work check the work station against fire hazards.</p>
	<p>Never try to fix a damaged gas reducer on your own. In case of malfunction replace the reducer to a fully functional one.</p>



Electromagnetic interference

The device may influence other devices sensitive to electromagnetic interference (robots, computers, etc.)

Always ensure that the devices within the welding work station are resistant to interference.

For the purpose of limiting interference, it is recommended to use as short welding cables as possible and arranged in parallel.

Always work in a distance at least 100 m from other sensitive devices.

Always make sure that the installation is grounded.

If there still are interference with other devices, properly shield the cables or use appropriate filters.

INTRODUCTION

Commissioning and normal operation are possible only after reading the carefully reading following manual. The MIG/MAG, TIG and MMA welding requires meeting the conditions corresponding to electric arc welding and fire regulations.

Device operator should be equipped with appropriate personal health and safety equipment. It is necessary to use a set of personal protective equipment in accordance with the provisions of Directive of the Council Directive No. 2016/425. Personal protective equipment includes: welding mask, welding gloves, protective apron, leather shoes, non-flammable welding clothing.

Despite the high technical standard of the device, the personnel should represent considerable discipline in approach to health and safety requirements to protect against harmful and health hazardous factors developed from welding technology.

OPERATING CONDITIONS

In order to ensure adequate service life and trouble-free operation it is recommended to:

- do not place or use this device on an inclined surface (of more than 15°),
- do not use the device for pipe defrosting,
- the device needs to be located in a place with free clean air circulation (to and from the fan without obstacles). When connected to electrical network the device must not be covered (with, for example, paper or cloth)
- minimize dirt and dust that can get into the device,
- device has an IP23S protection rating for housing and may be exposed to direct atmospheric fallout and is capable of operating outdoors.
- do not use the device for welding tanks previously used for flammable substances storing.



GASES AND FUMES

Using MIG / MAG, TIG and MMA techniques produces harmful gases and fumes containing ozone and hydrogen as well as oxides or metal particles. Therefore, the welding work station should be fitted with very good ventilation (dust and smoke extraction or airy location). Metal surfaces intended for welding should be free from chemical contamination, especially degreasers (solvents) that decompose during welding process and produce toxic gases. Welding of galvanized, cadmium-coated or chromium-plated parts is permitted only when a suction and filtering device is fitted, and with introduction of fresh air to the welding work station.

RADIATION

Ultraviolet emission radiated when welding is harmful to eyesight and skin. Therefore a welding mask with protective filters is required. Welding work station should meet certain requirements and include:

- adequate lighting system,
- fixed or movable protection screens, governing bystanders against radiation effects (depending on requirements), location with wall colours providing appropriate radiation absorption.

FIRE PROTECTION

Welding work station should be located at a safe distance from flammables placed especially on the floor or walls. All flammables need fire protection against hot metal drops. It is recommended to fit the work station with fire blankets and fire extinguishers.

PROTECTION AGAINST ELECTRIC SHOCK

It is unacceptable to connect the device to an improper installation or to an installation with unverified zeroing efficiency. It is prohibited to use of device with shields removed or remove the external shields while the device is connected to electric network. It is not allowed to work on a suspended device (e.g. using a crane or a gantry). Only authorized persons should perform maintenance and repair works keeping it in compliance with the safety conditions applicable to renovation equipment.

2. Maintenance (power supply and wire feeder)

ATTENTION: In order to carry out any repair or maintenance activity, it is recommended to

contact your nearest technical support of **RYWAL-RHC** (for list of company locations providing technical support - see last page of this manual).

In the event of noticing any damage, the welder should stop working, disconnect the device from power supply and report it to direct supervisor or appropriate service - **RYWAL-RHC** technical support.

General maintenance (daily)

- check the condition of cables and connections, replace if necessary,
- remove spatter from the gas nozzle of the welding torch, spatter may transfer with the shielding gas to the welding arc, tend to disrupt the shielding gas flow and can effect in a short circuit,
- check condition of welding torch, replace if necessary,
- check condition and operation of the cooling fan; keep the cooling air inlet and outlet openings clean,
- keep the device clean.

Periodic maintenance (every 3 months at least)

Periodic maintenance frequency can be increased depending on the environment in which the device is operating. Maintenance scope:

- using a stream of dry air (at low pressure) remove the dust from the outer parts of the casing and from inside of the welding device,
- check and tighten all the screws,
- check the state of all electrical contacts and correct if necessary.



ATTENTION: Electrical network must be disconnected from the device before any maintenance and service work. After each repair, perform respective check to ensure safe use.

Mandatory device checks

According to the Labor Code provisions: "All responsibility for the safe use of machinery and equipment shall be borne by the owner." This results in the obligation to perform periodic and post-repair checks and inspections of equipment. Periodic tests are carried out at least once a year (legal basis EN ISO 17662 clause 4.2), and post-repair tests after each repair that restored welding functionality (legal basis: EN 60974-4 clause 4.6). All above services re performed by the technical support of **RYWAL-RHC**.

3. Technical description and operating conditions

Fanmig 201 LCD is a cutting edge semi-automatic welding inverter machine designed for MIG/MAG welding, TIG DC (scratch start) and MMA coated electrode welding. The device is operated synergistically and includes a wide range of programmes for steel, stainless steel and aluminium. A programme for brazing with CuSi3 fi 0,8 mm. solder is also available.

The device is powered from a single-phase 230V. A PFC (Power Factor Correction) filter has been included in the device. The advantage of an inverter with PFC are: higher energetic effectiveness, lower load for electric network, greater tolerance to current fluctuations and less interference generated by the device.

The wire feeder enables wire welding with 5 kg / D200 spools. Recommended steel wire diameters are 0.8 - 1.0 mm and 1.0 mm for aluminium. (gat AlMg5). After change to the polarisation it is possible to apply self-shielding powder wires with a diameter of 0.8 mm or 0.9 mm.

The device is protected against overheating by a thermal sensor. Made in accordance with EN 60974-1 standard.

4. Technical data and completion

Parameter	Unit	Value
Electrical power supply	V/Hz	1x230/50-60
Welding current range MIG/MA G TIG MMA	A	20-200 10-200 10-200
Open circuit (MMA) U_0	V	67
Fuse	A	16 (delayed)
Current I_{eff}	A	15.7
Current I_{1max}	A	30.5
Duty cycle: MIG/MAG TIG MMA	A/%	200 A/30%; 150 A/60%; 130 A/100% 200 A/35%; 150 A/60%; 140 A/100% 200 A/25%; 140 A/60%; 120 A/100%
Wire feeding speed	m/min	1.5 – 17.0
Insulation class		F
Protection class		IP 23S
Rolls		30/22 (Cooptim type)
Dimensions	mm	215x540x410
Weight	kg	17.7
Catalogue no.		51 00 023685

Table 1: Technical parameters

The device is designed to be powered from a 1x110V single-phase network. The connection should be equipped with a proper plug by a qualified electrician. Technical data is subject to change - see name plate.

Device assembly:

Device is delivered with a mass cable and prepared for welding with a coated electrode, a gas hose and an user manual. Wire feeder is equipped with standard 0.8-1.0 mm rolls for steel wire (51 13 007826).

Additional welding torches and accessories (optional):

M24 SGRIP 3 m Welding Torch	55 08 302430
M24 SGRIP 4 m Welding Torch	55 08 302440
M24 SGRIP 5 m Welding Torch	55 08 302450
M15 SGRIP 3 m Welding Torch	55 08 301530
M15 SGRIP 4 m Welding Torch	55 08 301540
M15 SGRIP 5 m Welding Torch	55 08 301550
TIG SGT 17 4 m Welding Torch	17FSL4S
0.8-1.0 Roll	51 13 007826
0.6-0.8 Roll	51 13 007783

Accessories for aluminium welding and brazing (recommended wire diameter 1.0 mm):

1.0AL-1.2AL Roll	51 13 007863
Brass tube for EURO connection:	51 13 008011
Oxygen inserts for welding torch:	55 13 013010 (3 m); 55 13 013020 (4 m); 55 13 013030 (5 m).

5. Device construction

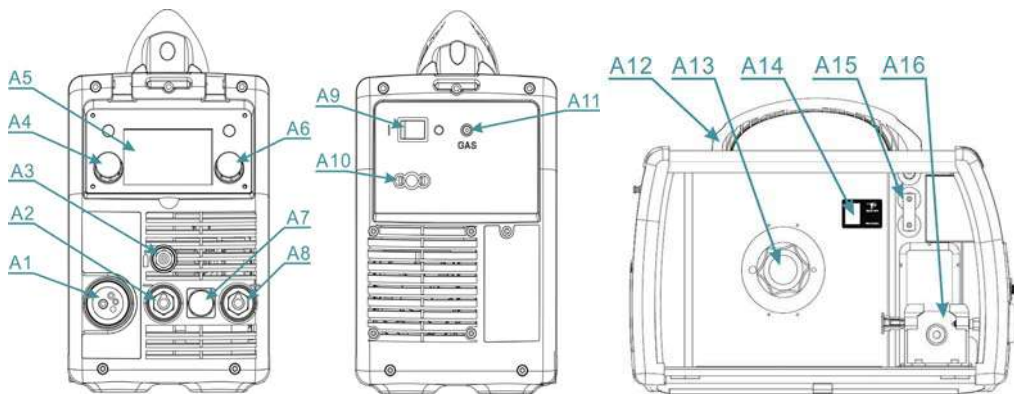


Figure 1: Fanmig 201 LCD construction

A17



Figure 2: Fanmig 201 LCD control panel

Pos.	Presentation
A1	MIG/MAG welding torch Eurosocket
A2	Current socket (-) or TIG torch socket
A3	Gas socket of the TIG torch
A4	Left hand wheel
A5	Display
A6	Right hand wheel
A7	Control socket of the TIG torch
A8	Current socket (+)
A9	Main switch ON/OFF
A10	Power cable
A11	Gas connection (quick coupling nipple)
A12	Top handle

A13	Spool fixing bushing with a nut and internal brake
A14	Welding switch with connected MIG handle and spool in the handle
A15	MIG/MAG socket polarity reversing sockets
A16	Wire feeder
A17	Menu button
A18	Welding button

Table 2: Device part list according to Figure 1 and Figure 2

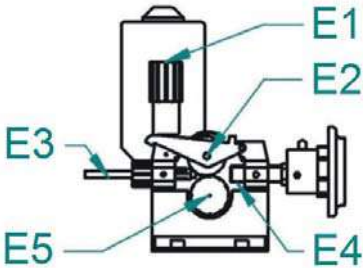


Figure 3: Wire feeding system

Pos.	Presentation
E1	Pressure adjustment knob
E2	Pressure arm
E3	Entry sleeve
E4	MIG/MAG welding torch Euro socket
E5	Feeding roll

Table 3: Wire feeder parts list

6. MIG/MAG welding technique

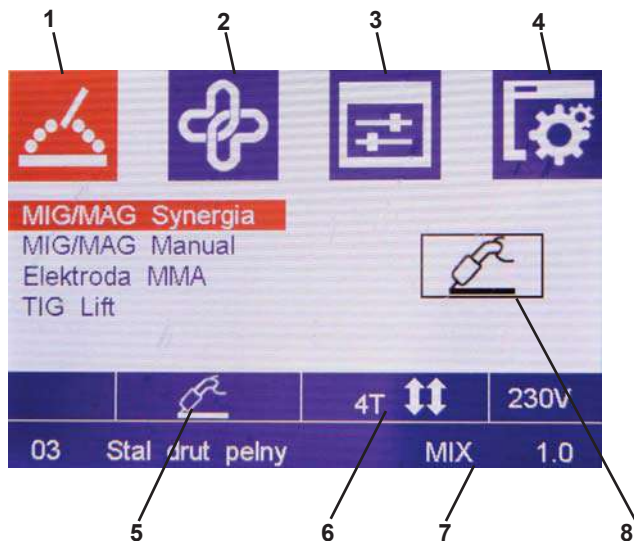


Figure 4: Main menu

Pos.	Presentation
1	Choice of welding method
2	Selection of synergistic programs
3	Welding parameter settings
4	System settings
5	Selected welding method icon
6	Selected welding torch mode icon
7	Synergy program parameter (from left hand side: program number, material, shielding gas and wire diameter)
8	Multifunction window - shows a current parameter

Table 4: Menu main functions

Press **A17 MENU** button to navigate between various menu icons 1; 2; 3 or 4.

WELDING METHOD SELECTION (icon 1)

To select the welding method turn and then press the **A4** knob.



Figure 5: Choice of welding method (selected: MIG/MAG Synergia)

Use the button on the upper right side of the panel **A6 WELDING** to display welding current and voltage settings. Turn the **A4** or **A6** dials to change these parameters.



Figure 6: Welding parameter setting (program 03, intensity 85 A, arc length correction +1.2)

SELECTION OF SYNERGY PARAMETERS (WELDING PROGRAMS - icon 2)

The synergy parameters sub-menu are available only after selecting the MIG / MAG Synergy method.

Turn and press the **A4** dial to access the selection of synergy parameters.



PRG	Material	Gaz	Ø
01	Stal drut pelyny	MIX	0.6
02	Stal drut pelyny	MIX	0.8
03	Stal drut pelyny	MIX	1.0
04	Stal drut pelyny	CO2	0.6
05	Stal drut pelyny	CO2	0.8

	4T		230V
03	Stal drut pelyny	MIX	1.0

Figure 7: Selection of synergistic programs (Program 03 was chosen for 1.0 mm full steel wire in the gas mix shielding)

Wire diameter [mm]	Workpiece / wire type	Gas
0.6	Full steel wire (program 01)	MIX: 82%Ar+18%CO2
0.6	Full steel wire (program 04)	CO2
0.8	Full steel wire (program 02)	MIX: 82%Ar+18%CO2
0.8	Full steel wire (program 05)	CO2
1.0	Full steel wire (program 03)	MIX: 82%Ar+18%CO2
1.0	Full steel wire (program 06)	CO2
0.8	Steel self-shielding powder wire (program 07)	No gas shielding
0.8	Stainless steel (program 08)	MIX: 97.5%Ar+2.5%CO2
1.0	Stainless steel (program 09)	MIX: 97.5%Ar+2.5%CO2
1.0	Aluminium / AlMg (program 10)	Argon
0.8	Galvanized steel / CuSi3 (program 11)	Argon

Table 5: List of synergistic programs for the Fannig 201 LCD.

CHOICE OF AUXILIARY WELDING PARAMETERS (icon 3)

Turn the A4 dial and then press the A6 knob to access the auxiliary parameter settings.

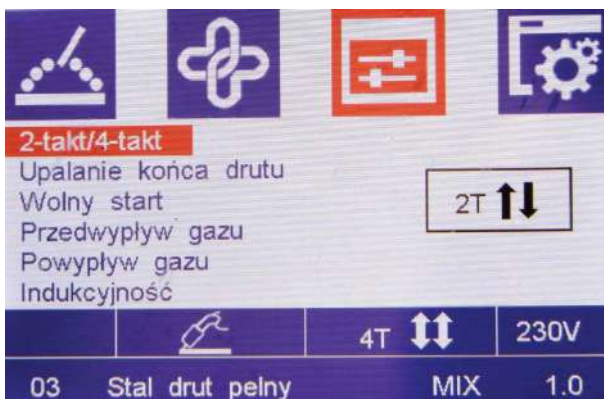


Figure 8: Selection of other welding parameters (2-step mode selected)

Auxiliary welding parameters	MIG / MAG welding parameters (default)	Welding parameters TIG (default)	MMA welding parameters (default)
Work 2/4 measure	2T/4T (2T)	2T/4T (2T)	-
Burning time of the tip	0-100	-	-
Free extension	0-10 (0)	-	-
Gas flow	0-2 s (0 s)	-	-
Gas flow	0-10 (0 s)	0-10 (0 s)	-
Inductance	0-10 (5)	-	-
Current drop time	-	0-10 s (0 s)	-
Hot Start	-	-	0-10 (0)
Arc Force	-	-	0-10 (0)

Table 6: Auxiliary parameters for different welding methods

SYSTEM SETTINGS (icon 4)

Turn the **A4** dial and then press the **A6** knob to access the auxiliary system parameters. The last item in the system settings submenu is **Restoring factory settings. (RESET)**. Press the **A6** knob to restore factory settings.



Figure 9: System settings submenu (Polish language selected)

The following system settings are available:

- Language selection.
- Units (metric / imperial (inch)).
- Sound for settings (on / off).
- Display brightness.
- RESET to factory settings.

6.1 Selection of the wire feeder

In all Fanmig devices, two-groove rolls are used. The grooves serve to feed wire with two different diameters (e.g., 0.8 and 1.0 mm). In order to change the diameter of the roll, pressure knob **E1** must be released first (according to Fig. 3), so the pressure arm **E2** will lift up. Then unscrew the roll fastening **E5** and turn it 180 degrees. Alternatively replace it with the right wire for the given diameter. Rolls intended for wire feeding must correspond to the diameter and workpiece of the wire to be welded. Only such compatibility ensures equal wire feeding. Disturbances in wire feeding lead to poor welding quality and wire deformation.

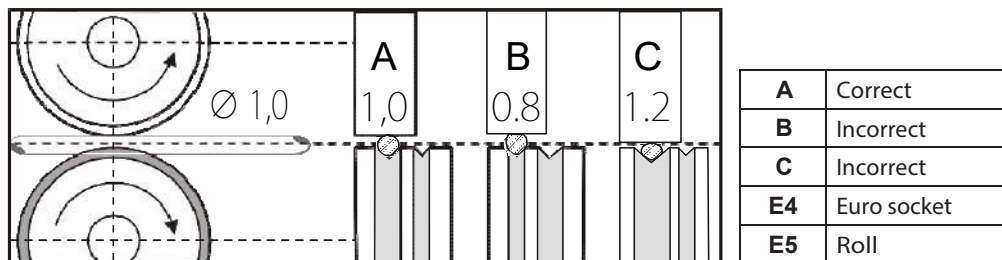


Figure 10: The influence of the roll groove on welding wire.

6.2 Device adjustment for aluminium welding

When feeding with aluminium wire, it is necessary to use a U-profile roll (e.g. 51 13 007863). To avoid problems with wire feeding, use 1.0 mm AlMg or AlSi wire. Al99 alloy wires are too soft, so their use can be problematic.

For aluminium welding, an additional Teflon insert of welding torch and a special current tip should be applied. It is not recommend to use a welding torch longer than 3 m. Pay high attention to roll pressure adjustments. Pressure should not be too high, as it can cause wire deformation. Always use argon as shielding gas.

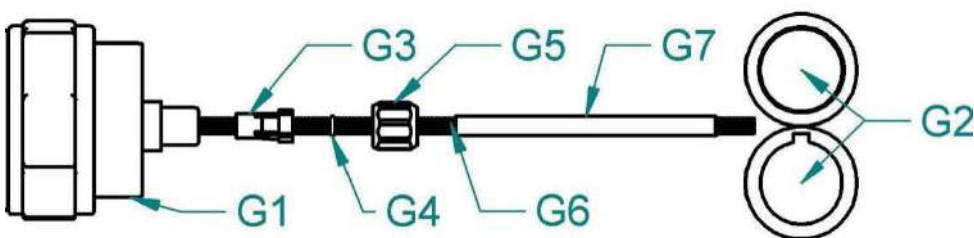


Figure 11: Adaptation of the aluminium wire feeder.

G1	Euro socket
G2	Rolls (upper pressure and lower U-type)
G3	Collet (included with guide insert)
G4	O-ring 3.5 x 1.5mm prevents gas escaping (included with the guide insert)
G5	Nut
G6	Teflone insert (see chapter 4: Equipment)
G7	Brass tube stiffening Teflon insert (51 13 008011)

Table 7: Parts for adaptation of aluminium welding tray.

6.3 Installation of the wire spool (according to figures 1 and 3)

1. Open the side cover of the wire feeder housing.
2. Place the wire spool on the **A13** spool clamping reel and secure it with the mounting nut. When using a 300 spool type (15 or 18 kg) use a suitable adapter, e.g. 50 00 001103. The hole in the back of the adapter must match the pin on the wire spool clamping sleeve!
3. Cut off the end of the wire and pull the wire through the input sleeve E3, the roll and then through the bushing in welding torch socket (~5 cm). Check if the applied groove is correct.
4. Lower the pressure arm **E2** to match the teeth, gears and lock the arm by positioning the **E1** lever vertically.
5. Adjust the pressing force of the **E1** clamping nut to ensure constant wire travel and prevent causing deformation. The adjustment screw is located under the **E1** plastic screw.
6. The brake on the spool inside sleeve **A13** is set by the manufacturer. If necessary, the brake can be adjusted by means of a screw, so when stopping the feed, the wire also stops at the same time (thus avoiding excessive wire development). Remember that a too-tight brake causes excessive resistance at unwinding and this can lead to wire rolls slippage.

6.4 Adjustment of wire feeding rolls pressure

It is very important to properly adjust the rolls pressure to ensure reliable operation of the wire feed mechanism. The pressure depends on the type of wire. In case of aluminium or powder wire, less pressure is required.

Application of excessive pressure force leads to greater wear of the mechanical bearings and may damage the device.

6.5 Inserting the wire into welding torch and connecting the ground cable



Attention!

Do not point the welding torch towards the face when inserting the wire!

1. Connect the ground clamp to the welding machine and the workpiece to be welded.
2. Screw the welding torch (**B6**) to the device euro socket (**B8**). The device must be switched on.
3. Remove the gas nozzle from the welding torch.
4. Unscrew the current tip.
5. Connect the power supply to the device (**B1**).
6. Set the main switch on the rear panel to ON.
7. Press the welding torch button. The welding wire is fed to the welding torch. Tighten the current tip and the gas nozzle after the wire exits the torch.
8. Spray an anti-stick agent into the gas nozzle before welding to prevent damaged from splinters.

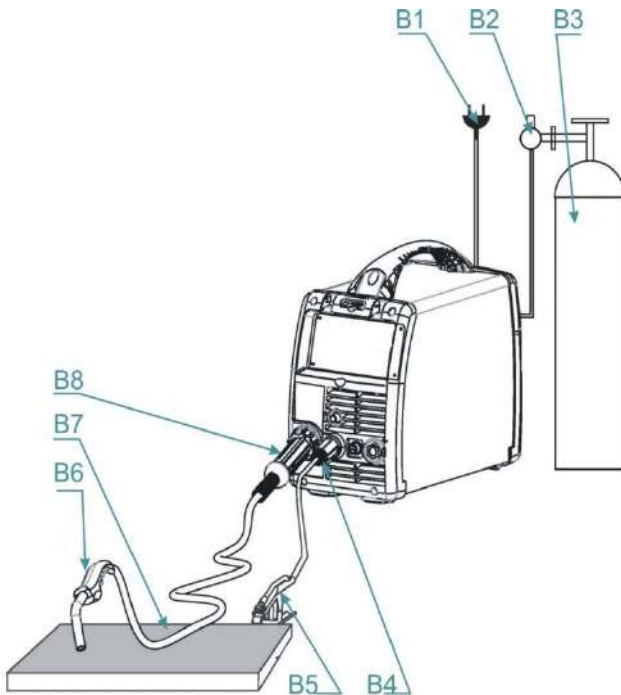


Figure 12: Connecting the MIG / MAG welding torch and ground cable.

6.6 Gas flow adjustment

The welding arc and a cooling down weld must be in the inert gas shield. Too little gas does not provide a protective atmosphere.



Attention:

The gas cylinder must be adequately protected against falling. This manual does not cover the protection of gas cylinders. Information on cylinder protection can be obtained from the technical gas supplier.

1. Attach the gas hose to **A11** plug (fig 1) on the back panel of the device.
2. Turn the adjusting screw **F7** located at the lower part of reduction valve until the **F6** meter shows the required flow. Then press the welding torch button. The optimum flow rate is 10-15 l/min depending on wire diameter and the nozzle used.
3. The pipes should be purged with shielding gas before starting welding after a prolonged period of device being out of service or after replacing the welding torch.

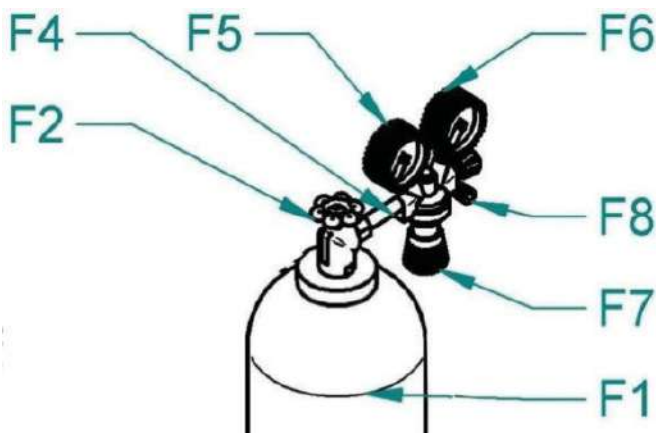


Figure 13: Shielding gas flow settings.

F1	Gas cylinder
F2	Cylinder valve
F4	Pressure reducer
F5	High pressure manometer
F6	Low pressure manometer
F7	Adjustment knob
F8	Gas outlet

Table 8: Gas connection components

6.7 Welding parameter settings

ADJUSTMENT OF WELDING PARAMETERS IN THE MIG SYN METHOD (SYNERGY PROGRAMS)

1. Find the right program number in the synergy parameters submenu. (For example, when planning to weld steel with a SOLID WIRE of 0.8 mm diameter and a gas mixture of 82% Ar + 18% CO₂, use the program No. 01 - see Figure 7)
2. Select the synergy parameter using the **A4** dial and press the **A4** knob to confirm the selection.
3. Then select the appropriate welding parameters using the **A4** and **A6** knobs.
4. Recommendation: in case of manual tacking (eg for car body repairs) use the machine in manual MIG mode.

ADJUSTMENT OF MIG MAN WELDING PARAMETERS (MANUAL)

1. Approximate current and voltage settings for MIG/MAG welding correspond to empirical ratio $U_2 = 14 + 0.05 I_2$. This empirical ratio allows to determine the required voltage.
2. Set a correct voltage
3. Then select the appropriate wire feed speed.
4. Adjust the arc by changing throttle levels in welding parameter settings submenu.

Wire diameter [mm]	Welding current [A]	Workpiece thickness [mm]
0.6	25 - 110	1.0 - 1.6
0.8	35 - 160	1.0 - 2.3
0.9	45 - 160	1.0 - 2.3
1.0	45 - 200	1.2 - 7.0

Table 9: Approximate parameter settings for MIG MAN welding (manual)

6.8 Cored wire - polarity settings for the MIG / MAG torch

1. In most cases, it is recommended to set positive polarity on the MIG / MAG torch when welding with solid welding wire. The welder uses device standard setting.
2. For welding with the core wire, it may be necessary to set negative polarity of the MIG/MAG torch.
3. Middle K2 connector is attached to central euro socket on the MIG/MAG torch.
By default, **K2** is connected to the (+) **K4** connector.
4. In case of welding with a negative polarity core wire (-), connect **K2** using the **K3** bridge to the **K1** connector.
5. Check the correct hitch of connectors.
6. Connect the ground cable to (+) socket

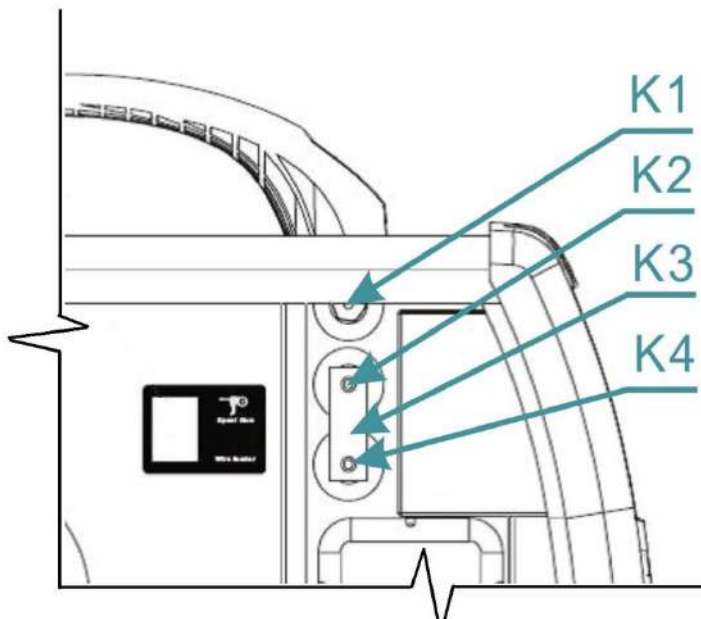


Figure 14: Connectors for changing the polarization of MIG/MAG torch

Pos.	Presentation
K1	Top connector (-)
K2	Middle connector
K3	Bridge
K4	Lower connector (+)

Table 10: Polarization change components for the MIG/MAG method

7. TIG welding

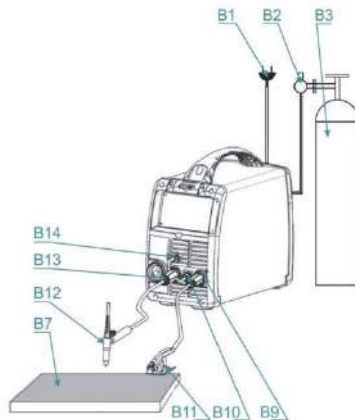


Figure 15: Connection of ground cable and torch

1. Connect the TIG **B12** torch to socket (-) **B13**, to gas socket **B14** and control socket **B10**.
2. Connect the ground cable to the (+) **B9** socket and the mass clamp **B11** to the **B7** welded workpiece or to the welding table.
3. Connect the device to the power supply and run the main switch **A9** on the rear panel to the ON position.
4. Connect the gas hose to socket A11 and adjust the argon flow in accordance with Chapter 6.6. on gas flow adjustment
5. In the method selection submenu pick **TIG Lift**, see Fig. 4.
6. Use the **A4** knob to adjust the welding current.
7. In submenu for auxiliary welding parameters settings, you can set the time of current descent, value of gas pre-flow time and gas outflow.

BASIC TIG WELDING SETTINGS - STAINLESS STEEL, DC CURRENT

Workpiece thickness [mm]	Tungsten electrode diameter [mm]	Workpiece diameter [mm]	Welding current [A]	Argon flow [l/min]	Gas nozzle [mm]
1	1	1.5	40-60	3	10
1.5	1.5	1.5	50-90	4	10
2	2	2	80-100	4	12
3	2-3	2-3	90-140	5	12
4-5	3-4	3-4	110-180	5	12

Table 11: Selection of parameters for DC TIG welding

8. MMA welding (coated electrode)

1. Connect the electrode welding wire and ground cable to the **A8 (+)** and **A2 (-)** sockets following guidance of user manual for each electrode type (Figure 1)
2. Select the MMA method chapter 4 (Figure 5).
3. Welding current is set using the **A4 dial**.
4. During welding, the display shows the measured values of the welding current.
5. The measured value (HOLD) stays visible on the display for a few seconds after welding.
6. In submenus of auxiliary parameters, you can select the Hot Start or Arc Force functions (see table 6)

9. Spare parts and device construction

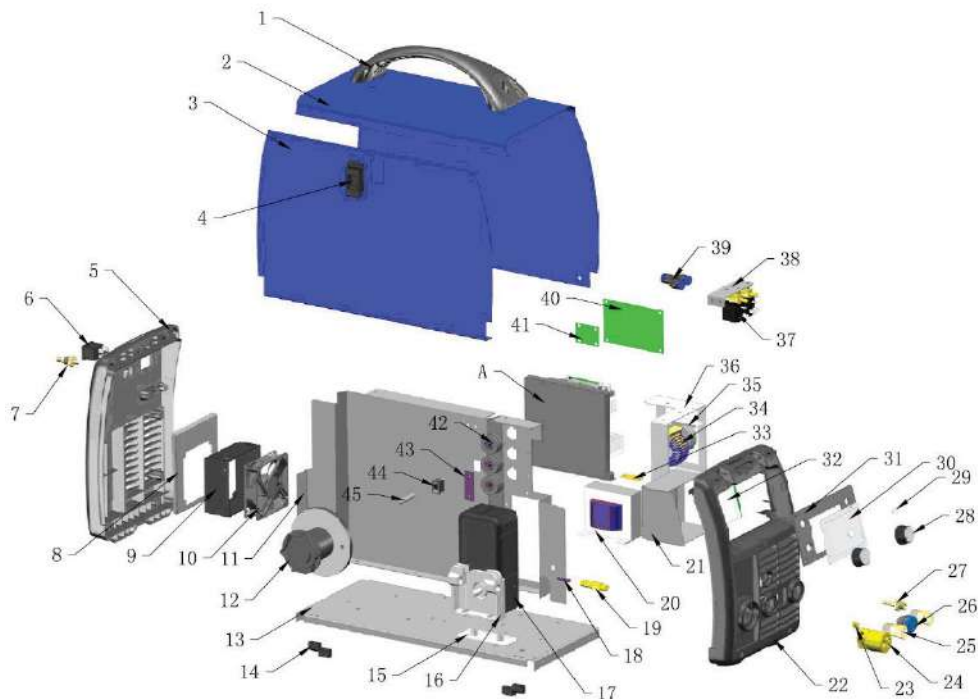


Figure 16: Fanmig 201 LCD spare part list

Pos.	Catalogue no.	Name	
A		Power Modul	1
1	8.253.035	Handle P200 OVO	1
2	8.051RM.251	Lateral panel (right) MM200	1
3	8.050RM.251	Lateral panel (left) MM200	1
4	7.686.300	Lock P160MIG	1
5	8.068.983	Front plastic panel	1
6	7.232.738	Switch MM200	1
7	8.462.116	Air Connector P40	1
8	8.122RM.740	Fan assembly P201 MIG SYN PFC	1
9	8.304RM.001	Panel shield P162 E PFC	1
10	7.720.053	Cooling fan P320 MIG	1
11	8.303RM.293-A	Median plate P201 MIG SYN PFC	1
12	8.199.130	Spool Holder P160MIG	
13	8.055RM.293	Base panel P201 MIG SYN PFC	1
14	7.686.080	Hinge P250/320 MIG	2
15	8.713RM.185	Washer under wire feeder P201 MIG SYN PFC	1
16	7.710.076	Wire feeder assembly MM200	1
17	8.123RM.924	Cover of wire feeder motor P201 MIG SYN PFC	1
18	8.178RM.203-A	Wire tube MM200	1
19	8.177RM.245	Connecting rod MM200	1
20	6.271RM.203	Inductance P250/320 MIG	1
21	8.123RM.638	PCB cover P201 MIG SYN PFC	1
22	8.069.983-l	Front panel P201 MIG SYN PFC	1
23	8.462RM.203	Air Connector P40	1
24	7.667RM.245	Central socket MM200	1
25	7.152.315-A	Euro socket MM200	2
26	7.132.012	Connector 12 pin Panel Socket PEGAS	1
27	8.462.028	Gas Connector Pegas	1
28	7.458.053-Y	Knob P201 MIG SYN PFC	2

29		Knob cap P201 MIG SYN PFC	
30	8.305RM.902	Transparent cover P201 MIG SYN PFC	1
31	8.306RM.293	Front PCB assembly P201 MIG SYN PFC	1
32	WP.496RM.432-1	Front PCB P201 MIG SYN PFC	1
33	7.305.510	Shunt P201 MIG SYN PFC	1
34	L.271RM.071	Inductor P201 MIG SYN PFC	1
35	L.185RM.379	Transformer P201 MIG SYN PFC	1
36	8.123RM.395	Transformer holder P201 MIG SYN PFC	1
37	7.253.013	Solenoid Valve Pegas	2
38	8.123RM.207	Gas valve assembly sheet	1
39	7.624.281	"Y" Connector P160MIG	1
40	W.496RM.455-B	Power PCB P201 MIG SYN PFC	1
41	W.496RM.332-A	EMC PCB P201 MIG SYN PFC	1
42	8.462.181	CHANGEOVER CONNECTOR P160MIG	3
	8.754RM.001	Adapter block	3
	8.754RM.002	Adaptor seat MM200	3
43	8.511RM.006	Terminal copper MM200	1
44	7.227RM.001-A	Switch MM200	1
45	8.122RM.106-B	Screw for spool holder P201 MIG SYN PFC	1

Table 12: Fanmig 201 LCD spare part list

10. Error messages and malfunctions during device operation



Attention:

The device may only be repaired by authorized personnel!

The device may display the following error codes:

Error code	Description and cause	Procedure
E01	Thermal switch 1 has tripped	Do not turn the device off, wait for the fan to cool it down below the permissible temperature.
E02	Thermal switch 2 has tripped	
E09	Device overheated, safety program was activated	

Table 13: Error codes

10.1 MIG/MAG welding technique

Fault	Potential cause	Recommen
Arc unstable	Incorrect synergetic program / Set the correct program depending on the material / wire / gas combination	Set the correct welding current
	Wire speed too high / too low	Set the right speed
	Poor contact of the mass clamp with the welded workpiece	Check the clamp and secure it again
	Incorrect current tip	Replace the tip with the correct one
	Incorrect gas flow	Set the correct flow
	Clogged wire guide	Clean with compressed air or replace
	Wire feeding incorrect	Check the rolls and pressure force in the wire feed
	Power source failure	Contact technical support
Too much spatter during welding	Too high wire feeding speed	Lower the speed
	Too high welding current	Lower welding current
	Welded workpiece dirty	Clean the welded workpiece
Wire feed motor does not work	No power supply	Check the electrical connection
	Poor operation of the welding torch button	Check button
	Damage to the control board	Contact technical support
	Motor damage	Contact technical support
The wire feed motor operates but without wire feed or with unstable wire delivery	The clamping arm is too loose	Adjust the pressure with the appropriate nut
	Incorrect feed roll	Turn or change the feed roll
	The wire is blocked in the current terminal	Exchange the current tip.
The device automatically switches off the display	100% work cycle	Allow the device to cool down and follow the instructions for use
	Fan does not work	Contact technical support
	Electric power source failure	Contact technical support

Table 14: Faults during MIG/MAG welding

10.2 MMA and TIG Method

Problem	Potential cause
Excessive splatter	1. Arc too long 2. Too high welding current
Crater	1. Too quick detachment of the electrode from workpiece 2. No power down function (TIG) enabled
Intrusions - slagging	1. Low material purity or densely placed welds 2. Incorrect electrode leading
Lack penetration, no sticking	1. Too high welding speed 2. To low welding current 3. Too small bevel angle 4. Incorrect edge cleaning
Electrode sticking to the workpiece being welded	1. Arc too short 2. To low welding current 3. Insufficient or lack of shield gas flow (TIG)
Bobbles in weld	1. Moistened electrode coating 2. Arc too long
Cracks in weld	1. Too high welding current 2. Welded workpiece dirty 3. Hydrogen in weld (from electrode coating)

Table 15: Faults during MMA and TIG welding.

11. Electrical scheme

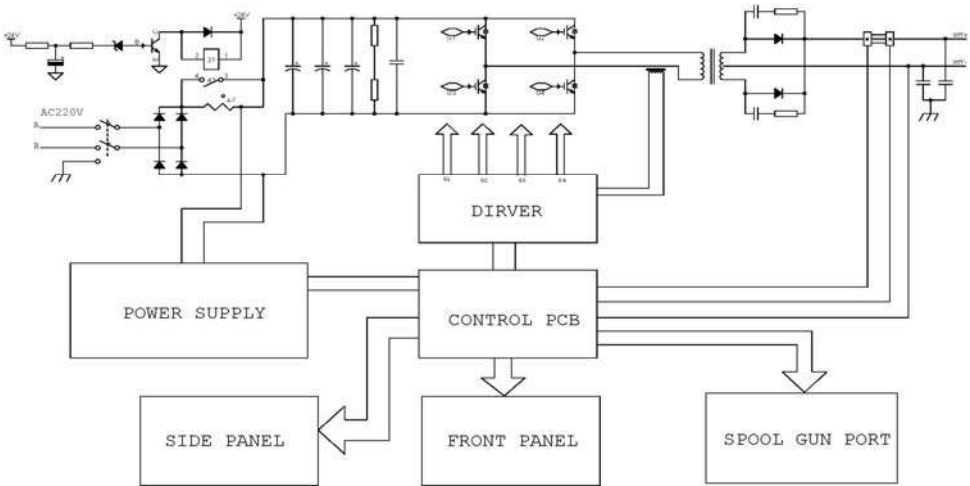


Figure 17: Electrical scheme

12. EU Declaration Of Conformity

- 1. Product** Fanmig 201 LCD Most Semi-Automatic Welding Machine
- 2. Name and address of the producer:**
RYWAL-RHC sp. z o.o. Warszawa
Ul. Chełmżyńska 180
04-464 Warszawa,
- 3. This declaration of conformity is issued under the sole responsibility of the manufacturer.**
- 4. Object of the declaration** Fanmig 201 LCD Most Semi-Automatic Welding Machine

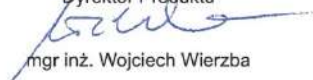


- 5. The subject matter of this declaration referred to above is in line with the relevant requirements of EU harmonization legislation:**
 - Low Voltage Directive LVD 2014/35/EC,
 - EMC Directive 2014/30/EC
 - The directive on the restriction of the use of certain hazardous substances use in electrical and electronic equipment RoHS 2011/65 / EC
- 6. References to the relevant harmonized standards in relation to which conformity is declared:**
EN 60974-1:2012; EN 60974-10:2014.
- 7. Additional information:** None

Toruń, 15-12-2017

Signed on behalf of:

Product Manager
Dyrektor Produktu



mgr inż. Wojciech Wierzba

13. Recycling



In accordance with Directive 2012/19 / EU WEEE II (WEEE - Waste Electrical and Electronic Equipment), after decommissioning, the device must be recycled by a specialized company.
Do not dispose of worn-out welding equipment with domestic waste!

The devices are subject to constant changes and improvements. Subject to change.

The End

Manufacturer:

RYWAL-RHC Sp. z o.o. Warszawa
Chelmszyńska 180
04-464 Warszawa

Sales and Service network:



www.rywal.eu

RYWAL-RHC Sp. z o.o.

87-100 **Toruń**, ul. Polna 140 B
tel. 56 66 93 801, -802, fax: 56 66 93 807

15-264 **Białystok**, ul. K.Ciołkowskiego 165
tel. 85 74 10 492, tel./fax 85 74 10 491

85-825 **Bydgoszcz**, ul. Fordońska 112 A
tel./fax: 52 345 38 73, 52 345 38 79

80-298 **Gdańsk**, ul. Budowlanych 19
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669 605 408

62-510 **Konin**, ul. Spółdzielców 12
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61

75-100 **Koszalin**, ul. Powstańców Wlkp. 2
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55

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09-400 **Płock**, ul. Przemysłowa 7
tel./fax: 24 269 22 24

61-371 **Poznań**, ul. R.Maya 1/12
tel. 61 862 61 51, fax: 61 866 69 41

35-211 **Rzeszów**, ul. M.Reja 10
tel. 17 85 90 141, -142, fax: 017 85 90 143

37-450 **Stalowa W.**, ul. Energetyków 49 tel./fax:
15 844 02 63, 15 844 55 16

72-006 **Mierzyn k. Szczecina**, ul. Welecka 22 E
tel./fax: 91 482 36 66, 91 482 36 78

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22 331 42 90, fax: 22 331 42 91

42-200 **Częstochowa**, ul. Warszawska 285/287
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31-752 **Kraków**, ul. K.Makuszyńskiego 4
tel./fax: 12 686 37 36, 686 37 35

41-703 **Ruda Śląska**, ul. Stara 45 tel.
32 342 70 00, fax: 32 342 70 01

54-156 **Wrocław**, ul. Stargardzka 9 C
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Zintegrowany System Zarządzania



ISO 9001
ISO 14001



AC 014
QMS, EMS



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