IVPOINT 200 MIG/MAG synergistic multifunction welding machine

CONTENT

Ez a hegesztőgép ipari és professzionális használata lett alakítva, IEC974 International Safety Standard-el.

Ezennel biztosítjuk, az egy éves garanciát erre a hegesztőgépre, a megvásárlás dátumától számítva.

Kérem olvassa el figyelmesen a leírást, mielőtt beüzemeli és használja a gépet.

Kérdésével forduljon hozzánk !

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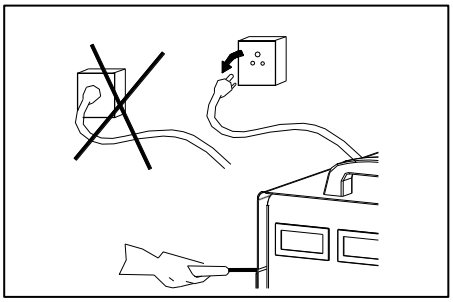
1. Security

Welding and cutting are dangerous for the operator, the people in the work area or nearby if the machine is not operated correctly. Therefore, the welding/cutting performance can only be operated in strict compliance with the safety regulations. Please read the following instructions carefully before starting up or using the device.

·THE functions switching can destroy the machine, while it works.

·Reply juice the electrode holder cable, before begins the welder use.



·THE security switch protects the machine the electric from leakage.

·THE welding tools good for quality must to be.

·Qualified machine operators are necessary.

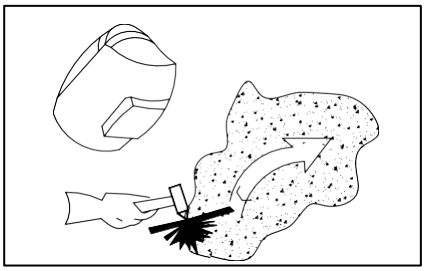
Electric Current: Deadly also possible!

·Connect the ground wire the basis regulatory way.

·Avoid any contact with live electrical parts of the welding circuit, or the electrodes and wires wilderness by hand. THE The machine operator must wear dry welding gloves during welding work.

·THE mechanic the workpiece hold further away by itself.

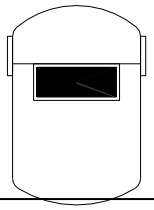
Originated gas and smoke welding, cutting during: harmful the to health.



·Avoid the welding during originated smoke and gases inhalation.

·Hold well ventilated the workspace.

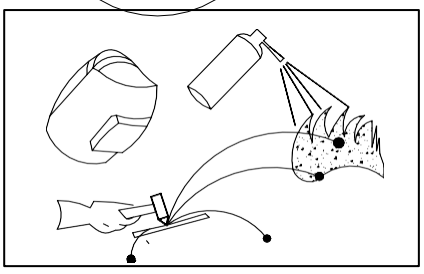
Arc radii: human eye to eye and on the skin dangerous!



·Wear welder helmet, anti-radiation glass and work clothes during welding .

·Security measures the close in the work area abstainers also affects.

Fire hazard



·Spark can cause fire, therefore remove away the flammable materials from the work area.

·Be fire-fighter device the nearby, and to be one qualified human, who can use it.

Noise: by ear harmful maybe.

·Welding/ cutting by originated noises because of appropriate earmuffs recommended, if the noise is high.

2. General description

The welding machine is equipped with inverter MIG welding power source, with external unchangeable output voltage, advanced IGBT technology designed by our company. With high current component IGBT, the inverter converts the DC voltage, which is purified from the internal 50Hz/60Hz AC voltage, into high frequency 20KHz AC voltage, as a result, the voltage is converted and filtered. Machine features:

- IGBT inverter technology, connection regulator, high quality, stabile performance;
- Closed retroactive circuit, unchangeable output tension, great tension balancing ±15% ;
- Electron reactor controller, stabile welding, small spark, deep molten swimming pool, excellent welding edge shaping ;
- THE welding tension forward adjustable, and the voltmeter the when welding displays the forward set voltage value.
- Simultaneously all the welding current, all the welding voltage is visible.
- Slow wire feed at arc start, melting ball removal after welding is completed, reliable arc start;
- Wire feeding separately the from a welder, windy assorted welding work.
- Small size, easy, easily manageable, economical, practical.

the machine :

When unpacking Look and, that transport during did it happen damage. Examine and, that everything accessory

to is there good in condition.

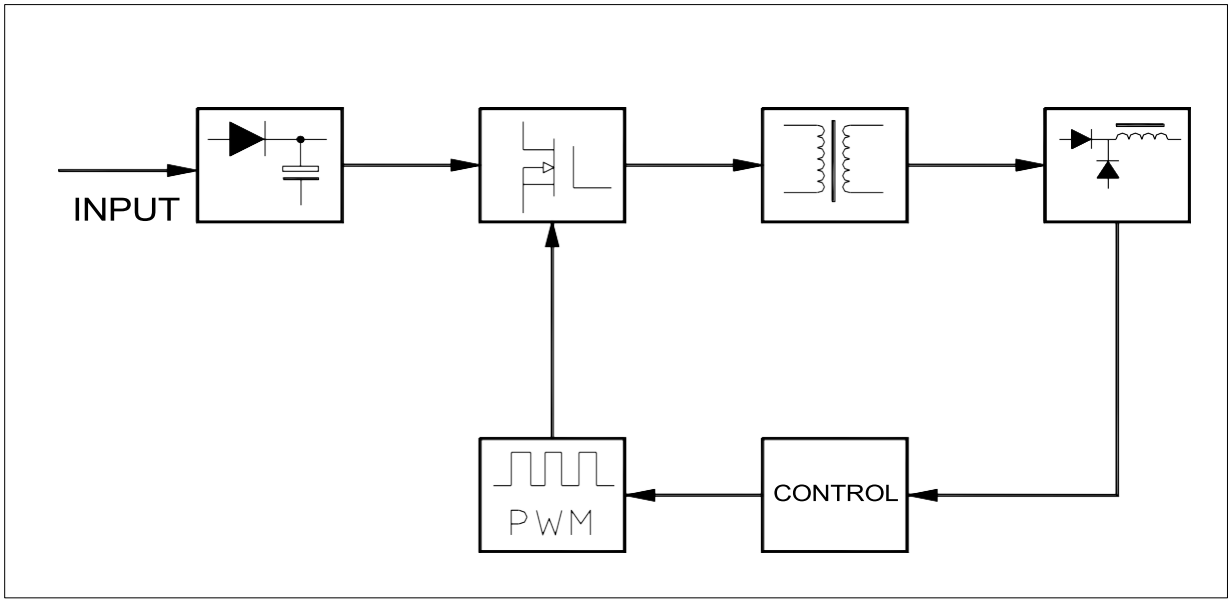
Included products:

Woman.	**Description**	**pcs.**	Image
1	MIG Welding Machine	1 set	
3	Guarantee card	1pc.	
4	Description	1pc.	
5	Electrode Holder	1pc.	
6	Grounded Pliers	1pc.	
7	3m MIG gun	1pc.	

Operational environment:

Adequate ventilation is necessary for proper cooling of the MIG-GS/GD machine. Make sure that it is stable on the surface there is placed the machine, where clean cool air without hindrance is going. THE MIG-GS/GD has electrical components and a control circuit board that can be damaged by excessive dust and dirt, so a clean working environment is required.

Block Diagram



3. Main characteristics

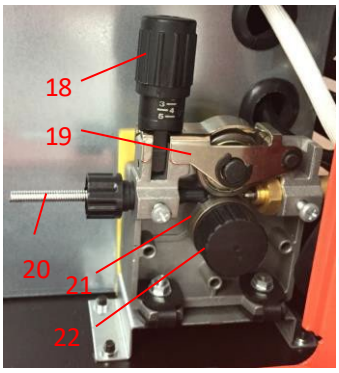
TYPE	MIG160	MIG200
Power supply tension (Sun)	single-phase 220V ± 15%	single-phase 220V ± 15%
Input current (THE)	16	20
Power supply capacity (KVA)	5.6	7.7
Current setting scale (THE)	30 ～ 160	30 ～ 200
Export voltage (V)	15 ～ 22	15 ～ 24
Nominal export current (THE)	160	200
Nominal export tension (Sun)	22	24
Nominal duty cycle (%)	60	50
Force factor	0.75	0.75
Efficiency (%)	85	
Wire dispenser type	External/Internal	
Afterflow time (s)	1	
Welder wire diameter (mm)	0.6/0.8/1.0	
Machine size (mm)	520×220×390	
Machine weight (kg)	15	
Plate thickness (mm)	≥0.8	
Insulation class	F	
Protection class	IP23	

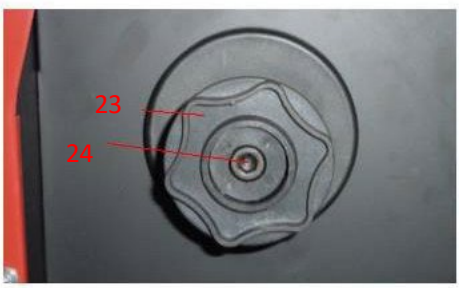
Note: The welding duty cycle is the percentage of the actual continuous welding time that can be done in that 10 minute cycle. For example: 15% at 200 amps means that the welder can weld continuously at 200 amps for 1.5 minutes and then the unit must rest for 8.5 minutes. The duty cycle can be affected by the environment in which the welding is done. In places where the temperature exceeds 40 ℃ , the duty cycle will be reduced compared to those mentioned. In places with temperatures below 40 ℃ , the duty cycle may be increased. All duty cycle tests are performed at 40 ℃ was completed at 50% . So, under practical working conditions, the duty cycle will be much higher than indicated above.

4. Welding machine Structure

1. Védőgáz választó gomb CO2/MIX/Flux
2. VRD /2T/4T választék funkció
3. Hegesztési mód kiválasztó gomb: MMA/LIFT TIG/MIG
4. MMA módban: hot start/ív erő
5. MIG pisztoly 'Euro ' kapcsolódó csatlakozó
6. Negatív (-) hegesztési kimeneteli terminál
7. Polaritás konverziós kábel
8. Multifunkcionális digitális kijelző
9. Huzal átmérő választás
10. Gáz teszt
11. Huzaltoló teszt befűzés
12. Memória funció
13. MIG módban: micro feszültség szabályzó/indiktivitás
14. Pozitív (+) hegesztési kimeneteli terminál

15. Gázcsatlakozó
16. Főkapcsoló
17. Tápkábell





18. Huzalszorító
19. Huzal görgő szorító szerkezet
20. Huzal megvezető
21. Huzal vezető görgő
22. Huzalvezető görgő biztosító
23. Huzal dob szorító
24. Huzal dob szorító anya

25. Pisztoly kapcsoló
26. Pisztoly euro gépcsatlakozó
27. Testcsipesz
28. Testkábel csatlakozó
29. Gázterelő
30. Áramátadó
31. Közdarab rugó
32. Közdarab

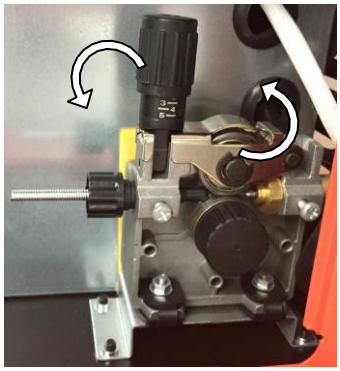
5. Commissioning

5.1. MIG welding machine setting and operation

5.1.1. Open Who the wire dispenser compartment lid door. Remove away the axis fastener (23) hour hand with his gait contrary
twisted.
5.1.1.2 Insert the 200mm diameter wire into the shaft holder, making sure the wire exits the feeder at the bottom of the shaft. Re-adjust the wire shaft clamp (23) and tighten it to a finger- tight fit .
5.1.1.3 Set the axle brake extension adjustment screw (24) using an Allen wrench. Turn clockwise to increase brake pressure, counterclockwise to decrease it. The axle By adjusting the brake pressure, the shaft will rotate freely, but once the wire feeder stops, it will not allow further rotation. This may need to be re-adjusted later as the wire is used and the weight of the shaft decreases.

5.1.2 Wire dispenser upload

5.1.2.1 Let it go Who the wire dispenser fastener regulator his arm (18) the damage by rotating (19) as the picture shows.



5.1.2.2 Check the wire guide roller groove (21) to ensure that the MIG wire matches with type and size. The leader The roller will have 2 different sized grooves, the groove size in use is marked on the side of the guide roller. For flux cored 'soft' wire, such as that used in gasless MIG welding, the edge of the guide roller groove is serrated. For hard MIG wire, the roller groove is 'v' shaped.

5.1.2.3 The leader roller (21) clockwise contrary by twisting the pliers (22) can be released. If the appropriate guide roller edge has been selected, replace the guide roller.
5.1.2.4 Screw it out the MIG wire from the from the axis the input rail through hose (20), through on the roller groove and into the output rail into hose.
5.1.2.5 Replace Who the tensioner lever (18) and set in the pressure (19). Double check, that the wire properly there is in it in the guide roller groove.
5.1.2.6 Wire dispenser pressure regulation: for this pull to the wire pressure regulating lever (18). Clock hand Turning in the same direction increases the tension, and turning in the opposite direction decreases it. You can see the current pressure on a numbered scale. The ideal pressure should be as low as possible while maintaining a constant wire feed rate.
conductor roller sliding without. Check all other slippery opportunity, as for example; not suitable/ worn guide roller, worn/ damaged gun head, closed/ damaged gun barrel liner, before increasing it the pressure of the dispenser .

⚠ Attention! - Before replaces the dispenser roller or the wire axle, be sure to about, that the main power switch is off.

⚠ Attention! - The dispenser excessive tensile force use fast and time before can ruin it the conductor roller, and the support bearing and the drive motor.

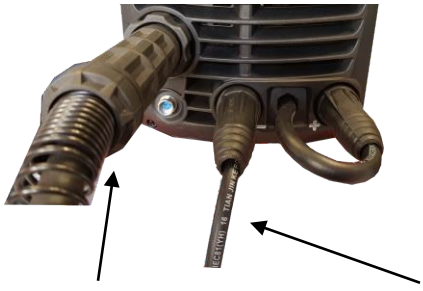
5.1.3 Setting gas without WHILE in welding
5.1.3.1. Connect the WHILE gun 'Euro' connector (26) the gun euro into socket the welder away (5). Ensure the screwable ring by hand suitable close by rolling the WHILE gun 'Euro' on its connector hour hand with his gait accordingly.
5.1.3.2 Check, that the appropriate powdery mildew - gas without wire, to it volatile conductor roller (21) and the power supply (30) well
they fit.
5.1.3.3 Connect the gun polarity connecting cable (7) the negative (-) welding output into socket (6).
5.1.3.4 Connect the grounded (body) fast connecting cable (28) the positive (+) output welder to terminal (14). See image below.

WHILE connection

Grounded wire (-)

5.1.3.5 Connect the grounded body tweezers (25) the to the workpiece. THE with workpiece suitable relationship strong must to be, clearly, the wilderness with metal in contact, rust, paint or strong contamination free.

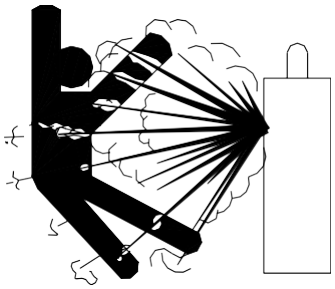
5.1.4 Setting with gas suitable In MIG welding
Comment - Weedy WHILE for welding need there is for shielding gas supply, pressure reducer and MIG on wire. These the
equipped there are none in it the basis in a welding machine .
5.1.4.1 Connect the pistol 'Euro' connector (26) the gun into the socket the welding machine at the beginning (5). Ensure the twist ring by hand suitable close by twisting the MIG gun's 'Euro' connector clockwise.
5.1.4.2 Check, that appropriate gas use the to wire, to it volatile conductor roller (21) and power supply (30) .
5.1.4.3 Connect the gun polarity connecting cable (7) the positive (+) welding output to terminal (14).
5.1.4.4 Connect the earth cable fast connecting cable (28) the negative (-) output welder to terminal (6). See image below.



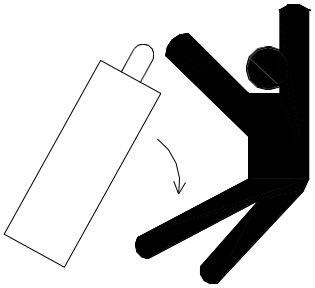
MIG connection	Grounded wire (-)

5.1.4.5 Connect the body tweezers (27) the to the workpiece. THE with workpiece suitable relationship strong must It should be clean, in contact with bare metal, free of rust, paint or peeling.
5.1.4.6 Connect the gas regulator (optional) and the gas line to the rear panel (15). If the regulator is equipped with a flow meter, the flow should be set to between 8 and 15 L/min depending on the application. If there is no flow meter, adjust the pressure so that you can hear the sound of gas coming out of the gun. at the end of the tube (29). It is advisable to check the gas flow again before welding. This is possible while the device is switched on and triggers the MIG gun.

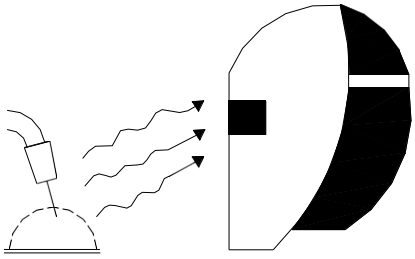
Co gas connection



Attach the CO_2 hose coming from the wire feeder to the copper pipe end of the gas tank . The gas installation system includes the gas tank , the air regulator and gas hose, the heater and cable in must into the rear connector of the machine, or use the hose clamp to tighten it, preventing leakage or air intake. This way, the welding point is protected.
Please pay attention:



1) THE gas leakage affects the welder arc performance.
2) Do not expose the gas cylinder to direct sunlight to prevent possible explosion of the gas cylinder due to increased pressure due to heat.
3) Forbidden to hit the gas cylinder, or horizontally to lay down!
4) Make sure that no one is standing in front of the regulator before releasing the gas or closing the outlet.
5) THE gas output volume meter vertically must, that be inserted for accurate measurement.
6) Before inserting the gas regulator, open and close the gas several times to ensure that any dust on the filter is removed and to help the gas escape.



Comment: Because the WHILE welding arch stronger as the MMA welding arch, therefore Please wear head shield, head protection and protective clothing.

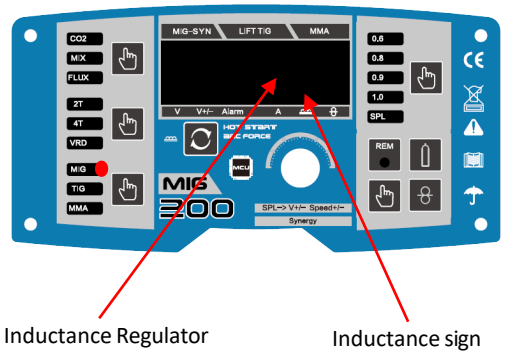
5.1.5 Control WHILE for welding
5.1.5.1 Connect in the machine the main switch with button (16). Wait 5 seconds, that the digital controller program to load .
5.1.5.2 Press juice the 'Welding mode selection' button (3) until then until the WHILE sign not lights up.

5.1.5.3 The multi-function digital display will show 2 numbers **. On the left side the welding voltage "V" will be displayed, on the right side the wire feed speed will be displayed.** The values can be adjusted by turning the 'Welding parameter adjustment' knob (13). Due to the synergic digital programming the voltage and wire feed speed will be adjusted together.

5.1.5.4. To do this, that separately set in the tension, to press juice once the 'information choice' button(potentiometer) (13). This
to change tooth and the for the following similarly one display tooth to show.

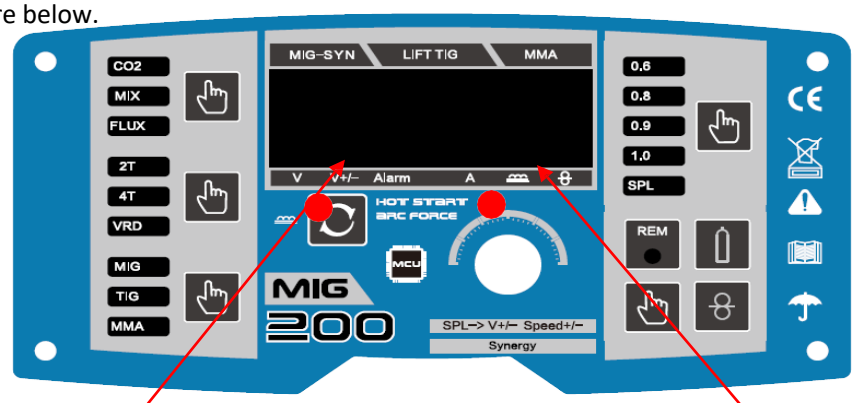
Ezután használja a szabályzó gombot (13) hogy beállítsa a hegesztési feszültséget +/- 5V az alap együttható beállításokból. Ez nem fogja megváltoztatni a huzal gyorsaságát. Ezért javasolt a könnyebb használat érdekében, hogy a huzaladagoló cél sebesség van először beállítva és utána a feszültség – hangolni, ha muszáj.. Nézze meg a hegesztési gyorsbeállításokat a 20. oldalon vagy a huzaladagoló ajtaján a javasolt beállításokat.

5.1.5.5 Press juice the 'information choice' (13) button yet once if the inductance would like to set the welder arc. Use the control knob (13) to adjust the inductance from -10 (lower) to +10 (higher). For this reason It is therefore recommended that the induction be adjusted only by an experienced mechanic, otherwise the induction should remain in the neutral (0) position.



Gyors megjegyzés az induktivitásról –ez hatásosan beállítja a hegesztési ív induktivitás intenzitását, ami 'puhábbá' teszi az ívet, kevesebb hegesztési maradvánnyal. Magasabb induktivitás erősebb ív vezetést eredményez ami növelheti az áthatolást. Az optimális induktivitás beállítása sok tényezőtől függ mint például: az anyag típus, a gázköttetés típusa, hegesztési áramerősség, huzal méret.

5.1.5.6 Press to again the information selection button (13), that return the basis wire speed/voltage adjustment for display. If the control panel no regulated then 5 seconds after to step back the basis MIG setting for mode.
5.1.5.7 During welding, the display will show the current welding voltage and welding current as shown. also shown in the picture below.



Current welding Voltage

Current welding current

5.1.5.8 **2T/4T Function:** Press the 2T/4T selection button to toggle between 2T and 4T modes. 4T operation means that the trigger must be pulled once to start welding and pulled again to stop. This is useful when welding for a long period of time. For 2T mode, you must hold the trigger down while welding.

Wire diameter setting:

Set in the machine on the right side existing button with the help of the appropriate wire diameter. 0.6-0.8-0.9-1.0- SP.

SP function: Manual setting option for separate voltage "V" and wire feed speed adjustment. Here you can override the synergic setting. Switch the LED display to SP/SPL mode and press the control knob once. You can manually set the desired value by turning the control knob . You can set the voltage "V" and wire feed speed in the + and - ranges .

5.1.6 Wire threading

1.6.1 Remove away the gas deflector (28) and the welder power supply (29) the about a gun. THE conical pipe end hour hand with his gait
accordingly roll and pull juice at the same time. THE welder mountain and screw Who the mountain from its adapter.
5.1.6.2 With the wire feed cover door still open, press the trigger on the gun (23) and check that the wire runs smoothly through the feed roller into the gun.
5.1.6.3 Then extend the gun guide and pull it out of the machine as far as it will go, then press the ' automatic ' button. wire 'dosing' button (13) once. This starts the dispenser engine complete at speed, so that the wire pass through the gun barrel.
5.1.6.4 Once the wire has exited the end of the gun neck, pull the gun trigger or press any button on the display to automatically stop wire feeding.
5.1.6.5 Close in the wire dispenser lid door.
5.1.6.6 Replace Who the power supply (28) and the gas deflector(27) the on the neck of a pistol and cut
juice the unnecessary wire. Ready to weld!

5.1.7 MMA/STICK mode operation (Arc welding)

Note- MMA/STICK for welding need there is one MMA conductor for a set and welder electrodes. These Accessories are not included in the basic MIG-S package, please contact your supplier for more information.
5.1.7.1 Connect earth cable quick connector (26) the negative (-) output to terminal (6).
5.1.7.2 Attach the body clamp (25) to the workpiece. It is important that the contact with the workpiece is strong, clean, smooth metal contact, free of rust, paint or slag.
5.1.7.3 Connect the ARC/electrode pliers the positive welding output into terminal. Comment – some electrode type uses a different polarity connection. If in doubt, consult the electrode manufacturer.
5.1.7.4 Turn it on in the machine the main with switch (16).
5.1.7.5 Press juice the welding mode selection button (3) as long as the led adjective not lights up. See following illustration

A kijelző mutatni fogja az aktuális MMA hegesztési áramerősséget. Ezt a hegesztési paraméter szabályzó (13) forgatásával lehet állítani.
Knob (13).

5.1.7.6 When welding the display to change tooth the current tension and current to detect.

5.1.7.7 VRD also known as Voltage Reduction Device, is a safety system that reduces this open circuit to a level where the possibility of electric shock is minimized. However, it also makes the arc harder to strike. To turn VRD on/off, press the 2T/4T/VRD button (2). IT PROVIDES PROTECTION TO YOUR USER IN HAZARDOUS ENVIRONMENTS, E.G. MOIST , HUMID, CORROSIVE ENVIRONMENTS. This function can only be used in MMA mode!

5.1.8 Elevator TIG operation (awi welding)

Comment - TIG for operation necessary argon gas, gas valve TIG for a pistol. These the complements the basis MIG-S package not included, please contact your supplier for more information.

5.1.8.1 Connect the grounded (body) quick connect (28) the positive (+) output terminal (14).

5.1.8.2 Connect it body tweezers (27) the to the workpiece. Important, that the with workpiece suitable connection strong should be clean, in contact with smooth metal, free of rust, paint or slag.

5.1.8.3 Attach aTIG gun current leader the negative (-) output to terminal (10).

5.1.8.4). Switch on the machine using the main power switch (16).

5.1.8.5 Press to the Welding mode selector button (3) until then until the Elevator TIG lamp not lights up. See illustration below .

The display will show the current welding current “A”. This can be adjusted by turning the welding parameter control knob (13).

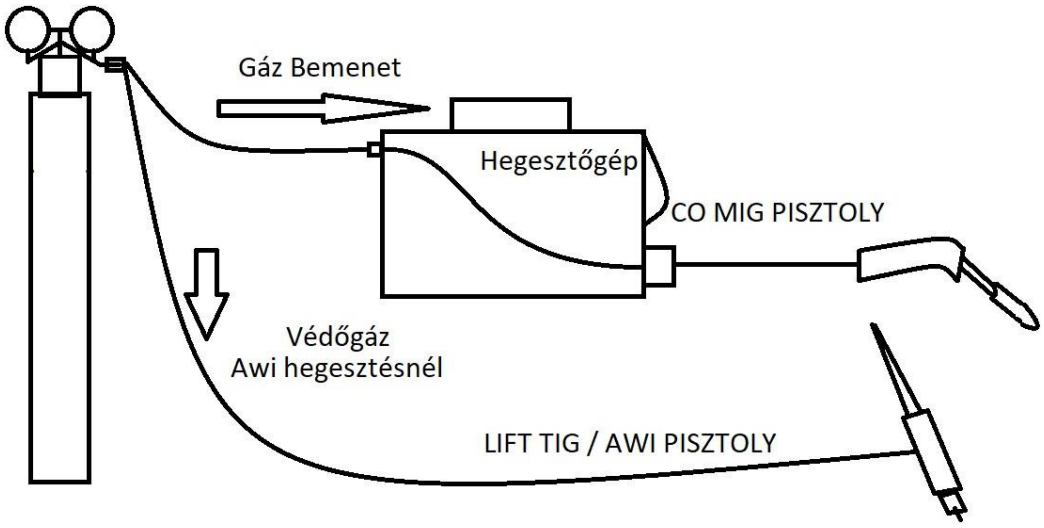
5.1.8.7 When welding the display to change tooth the current tension and current to detect.

Elevator TIG: TIG lower called the contact type arcing TIG .

Necessary supplies : inverter welder With **LIFT TIG** function, contact (tapping)type Tig gas valve gun one output current with cable and one gas with a pipe + Price gas.

Below in a way use the ELEVATOR TIG function: (Tapping awi function)

Connect the TIG gun cable to the negative output terminal, and connect the gas tube to the gas meter on the argon gas cylinder . There is a nut cover on the air tube that can connect to the gas meter. The gas meter and the nut should be screwed in the same amount. Open the valve of the argon gas cylinder and open the gas meter as well. Adjust knows the gas flow on the TIG gun by adjusting the gas control valve located on the appropriate tungsten filament of the desired color and diameter . Touch the tungsten tip to the workpiece. and raise the TIG gun a little, then the arc will start.



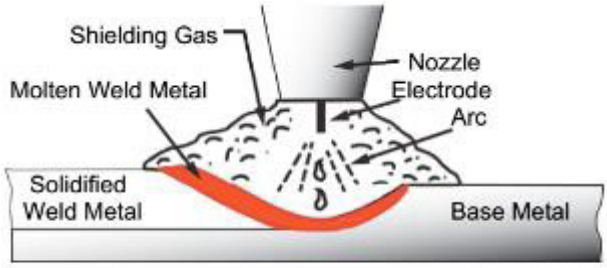
6. Welding Fast Settings Table

RPWMIG1400i Welding Settings Quick Reference Chart										
Welding Parameter					Material Thickness					
Welding Material	**Wire Type**	**Polarity**	**Wire Size**	**Shielding Gas**	**1.0mm**	**2.0mm**	**3.0mm**	**4.0mm**	**5.0mm**	**6.0mm**
					Settings Key: Voltage/ Wire speed					
Mild Steel	Self Shielded Flux Core	Torch Negative (-)	0.8mm	N/A	-	14.0/2.7	16.2/3.0	18.5/6.1	24.5/9.0	-
Mild Steel	Self Shielded Flux Core	Torch Negative (-)	0.9mm	N/A	-	16.3/2.0	18.8/3.6	20.2/4.1	21.0/7.5	21.6/9.0
Mild Steel	Solid Wire ER70S-6	Torch Positive (+)	0.6mm	75% Argon + 25% CO2	15.9/3.4	19.5/7.8	-	-	-	-
Mild Steel	Solid Wire ER70S-6	Torch Positive (+)	0.8mm	75% Argon + 25% CO2	12.8/2.0	14.1/3.3	17.5/6.6	20.0/8.2	21.0/9.0	21.0/9.0
Mild Steel	Solid Wire ER70S-6	Torch Positive (+)	0.6mm	100% CO2	14.2/2.1	19.8/8.1	-	-	-	-
Mild Steel	Solid Wire ER70S-6	Torch Positive (+)	0.8mm	100% CO2	13.6/2.3	14.4/3.6	18.4/4.2	21.1/8.5	22.6/9.0	-
Use this chart as a guide only, as optimal settings will vary with joint type and operator technique. Cells left blank are not a recommended configuration.										

Basis welding guide

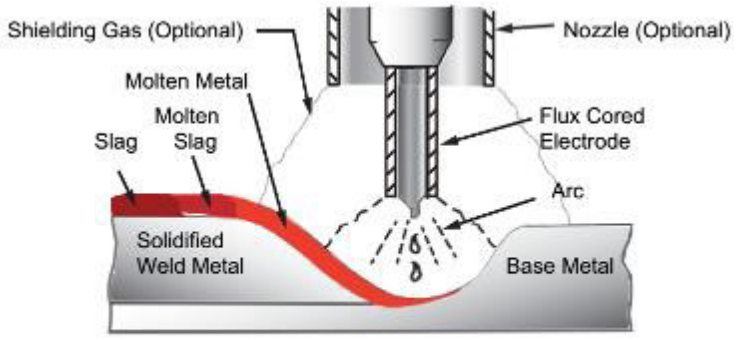
WHILE (GMAW/FCAW) Basis welding technique
This section covers two different welding processes (GMAW and FCAW) with the intention of presenting a basic concept that is used in MIG welding. The gun is held in the hand and the electrode (welding wire) is inserted into the weld pool , and the arc is shielded with an inert welding-grade shielding gas or an inert shielding gas mixture.

Gas Metal Arc Welding (GMAW): This the process, under another name WHILE welding, CO2 welding, Micro Wire Welding, short arc welding, dip -transfer welding, smooth welding etc., an electric arc welding process that fuses parts together which will then be welded together by heat welded between an electrode and a workpiece. The Weld protection consists of an externally supplied welding-grade shielding gas or shielding gas mix.



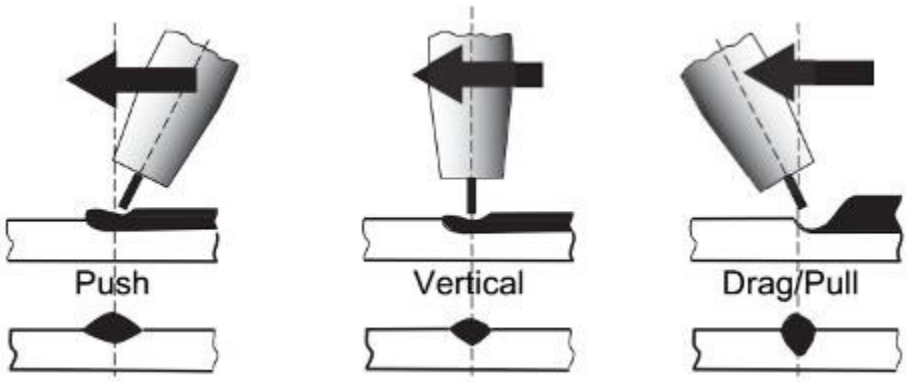
GMAW Process

ARC WELDING (FCAW): This one electric arc welding process, deep parts melt together, which then they are welded together by wan arc welding between a continuous flux-cored electrode wire and the workpiece. The cladding is achieved by the decomposition of the flux inside the tube . Plus shielding is not necessarily possible with a externally employee from gas or gas from a mix. This one semi- automatic method, at the same time the process feasible automatically or machine by also. Often used bigger diameter with electrodes suitable to weld flat and in horizontal position and in all small electrode diameter positions. Less commonly used for stainless steel welding and overlapping work.



FCAW Process

WHILE gun position
THE WHILE gun setting angle affects the welding width



THE pistol in the welding seam angle must to hold (See following Secondary Setting Variables). Hold business the pistol, that the welding seam always see. Or always wear welder helmet the properly filtered with lenses and other appropriate safety equipment.

ATTENTION
Not pull back the pistol the arc when creating. This excessively can increase the wire extension (jumps out) and very weak welding may result.
The electrode is not energized until the gun trigger is pressed. This allows the wire to be placed on the seam before lowering the helmet.

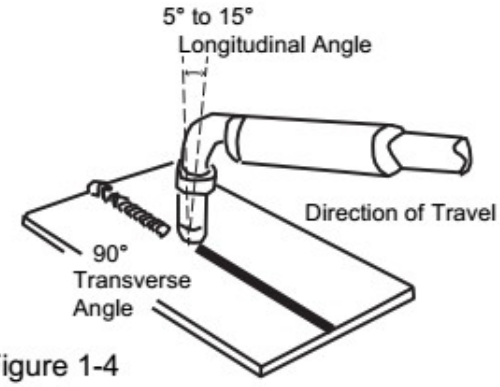


Figure 1-4

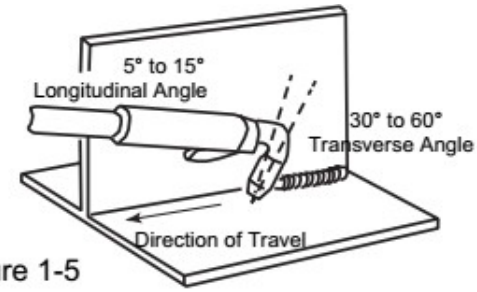
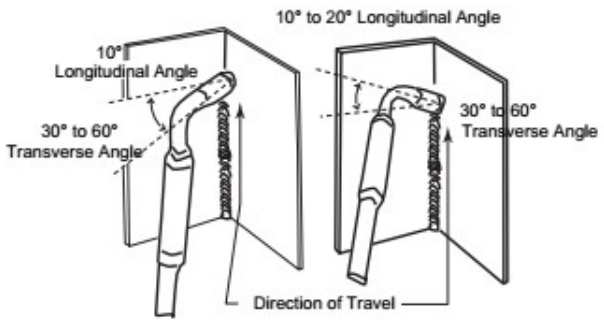


Figure 1-5



Vertical Fillet Welds
Figure 1-6

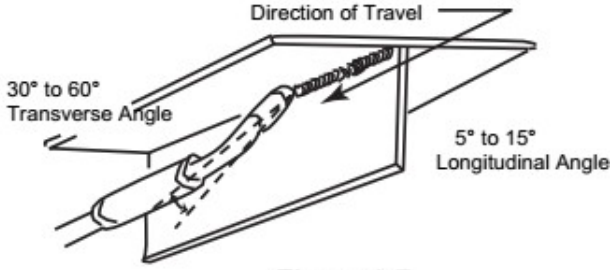


Figure 1-7

Distance the from nozzle the to the workpiece

THE from a pistol protruding electrode 10mm and 20mm between must be. THE distance may differ the welding seam type.

speed

THE speed deep the molten melt travel, affects the welding width and the welding wedging.

WHILE welding variables (GMAW)

THE most welding process on carbon steel goes. Description the below.

THE variables short in arc welding 24 from gauge (0.024", 0.6mm), ¼" (6.4mm) mild sheet or plate. THE The methods used and the end result in the GMAW process are shaped by these variables.

Primary adjustable variables

These they control the process the forward selected variables after. They they control the penetration, seam width - height, arc stability, deposition extent and the good welding:

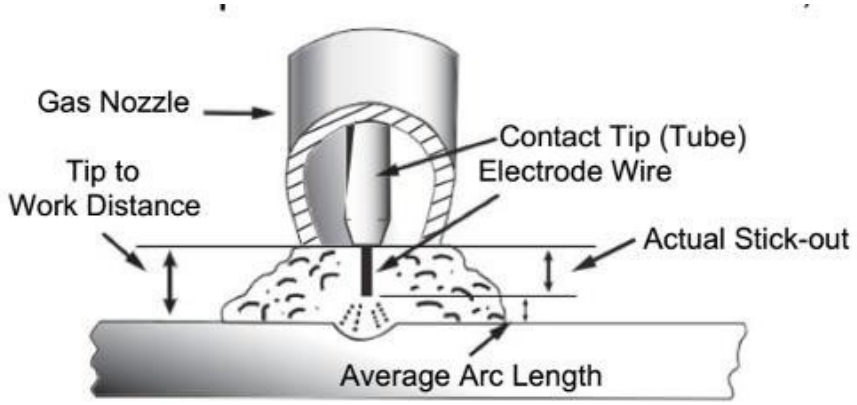
Arc voltage

Welding current (wire dispenser speed) Travel speed

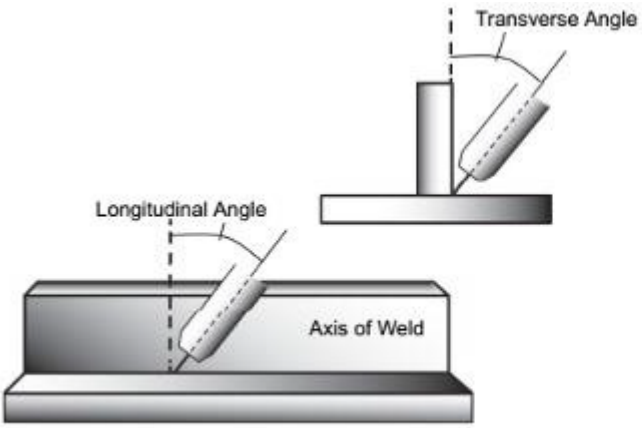
Secondary adjustable variables

These the variables exchange cause the primary in variables, which the desired change causes the seam in formation:

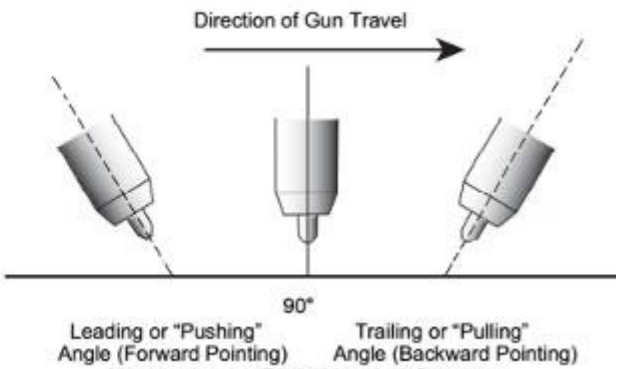
1. Standout (the contact tube end (head) and the electrode end between distance). 10mm stand out hold on.
2. Wire dosing speed. On this speed increase raises the welding current strength, reduction and slows down the current strength.



3. Nozzle angle. This the welder gun to his position and the seam to his relationship refers to. The transverse direction usually ½ the nail the between the plate and the weld . The longitudinal angle is the angle between the centerline of the gun and a line perpendicular to the weld. This is also commonly called the nozzle angle and can be either push or pull. The right or left handedness of the operator must be taken into account for each welding angle and the welding process.



Transverse and Longitudinal Nozzle Axes



Nozzle Angle, Right Handed Operator

Arc creation and seam making

Before welding on a finished product, it is recommended to practice on a simple sample material, similar to the material from which the product is made.

The easiest welding method for a beginner to practice is MIG flat position. The equipment is capable of flat, vertical and overhead welding.

MIG welding record for practice some 16 or 18 size (0.06” 1.5mm or 0.08” 2.0mm) mild steel plate 6” x 6” (150 x 150mm). Use 0.030” (0.8mm) flux cored wire without gas or a hard wire with a tinted gas.

Power source setting

Power source and wire feed settings require practice, as welding machines have 2 control settings that must be balanced. These are the wire speed control and the welding voltage control. The welding current is determined by the wire speed control, if it increases, the current also increases and results in a shorter arc . Slower speed reduces the current, increases the welding voltage and lengthens the arc. By reducing the voltage, a shorter arc can be maintained with less change in the current level.

If you are using a different diameter electrode, different control settings are required. A thinner electrode will require a higher wire speed to achieve the same current level.

Not will be appropriate the welding if the wire speed and tension there are none adjusted the electrode to its diameter and the
workpiece to its dimensions.

If the wire speed is too high for the voltage, a kind of “suppression” occurs as the wire sinks into the weld pool . and not melt away. Such welding conditions for bad welding they lead due to lack of melting. However, if the welding voltage is too high, it will form large droplets at the end of the wire, resulting in spatter. The correct wire speed and voltage settings can be seen in the welding position and the sound of the arc is heard to have a normal smooth sound. Please refer to the welding guide inside the wire feed door for more information.

Electrode wire size choice

Electrode size choice and the protective gas use the from the following Depends
on: Weldable metal thickness
Wire dispenser capacity and Power source
Required wedging amount
Necessary deposition
rate Desired source
sample
Welding position

7. Current and Voltage CO2 When welding

Wireϕ (mm)	Short circuit transition		Grainy transition	
	Current （ A ）	Voltage(V)	Current （ A ）	Voltage (Sun)
0.6	40~70	17~19	160~400	25~38
0.8	60~100	18~19	200~500	26~40
1.0	80~120	18~21	200~600	27~40

-Welding speed option

Welding quality and efficiency should be considered when selecting the welding speed. If the welding speed increases, the protection efficiency will be weakened and the cooling process will be accelerated. Consequently, it is not suitable for joining. If the speed is too slow, the workpiece may be damaged and the joining will not be ideal. In practice, the welding speed should not exceed 1m/min.

-Wire of stretching length

The wire end extension length should be appropriate. Increasing the length can help improve the efficiency, but if it is too long, unnecessary spatter will occur during the welding process. Generally, the wire length should be 10 times the diameter of the welding wire.

- $C0_2$ volumetric flow setting

Defense effectiveness deserves primary attention. The internal-angle welding better provides protection, as external-angle welding. The table below shows the main parameters

$C0_2$ volumetric flow alternative

Welding mode	Thin wire $C0_2$ welding	Thick wire $C0_2$ welding	Thick wire, large current $C0_2$ welding
$C0_2$（ L/min ）	5 ～ 15	15 ～ 25	25 ～ 50

8. Welding parameter board

The selection of welding current and voltage can affect the stability, quality and efficiency of welding. In order to maintain good quality , the current and voltage should be set to the optimum. Generally, the welding condition should be in accordance with the welding diameter and melting class and the manufacturer's conditions. The following parameters are for reference.

8.1 Parameter for butt welding (See following illustration)

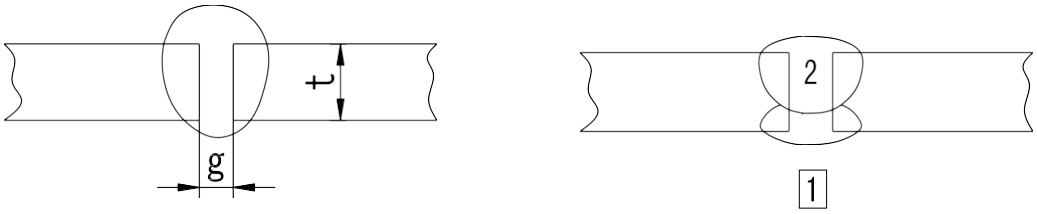


Plate thick-skinned t （ mm ）	Gap g(mm)	Wire ϕ(mm)	Current sky （ A ）	Voltage （ Sun ）	Welding speed （ cm/min ）	Gas volume （ L/min ）
0.8	0	0.8~0.9	60~70	16~16.5	50~60	10
1.0	0	0.8~0.9	75~85	17~17.5	50~60	10~15
1.2	0	1.0	70~80	17~18	45~55	10
1.6	0	1.0	80~100	18~19	45~55	10~15
2.0	0~0.5	1.0	100~110	19~20	40~55	10~15
2.3	0.5~1.0	1.0 guard 1.2	110~130	19~20	50~55	10~15

3.2	1.0~1.2	1.0 guard 1.2	130~150	19~21	40~50	10~15
4.5	1.2~1.5	1.2	150~170	21~23	40~50	10~15

8.2 Parameter flat for fillet welding (See following illustration.)

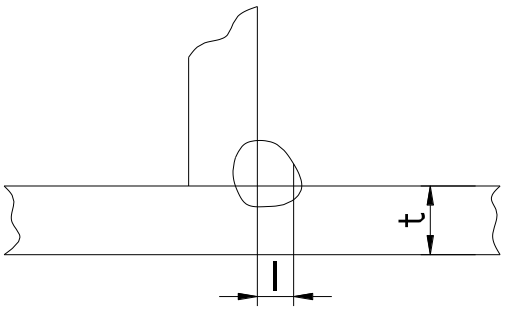


Plate thickness t （ mm ）	Grain size I (mm)	Wire ϕ(mm)	Power supply sky （ A）	Voltage （ Sun）	Welding speed （ cm/min）	Gas volume （ L/min）
1.0	2.5~3.0	0.8~0.9	70~80	17~18	50~60	10~15
1.2	2.5~3.0	1.0	70~100	18~19	50~60	10~15
1.6	2.5~3.0	1.0 ~ 1.2	90~120	18~20	50~60	10~15
2.0	3.0~3.5	1.0 ~ 1.2	100~130	19~20	50~60	10~20
2.3	2.5~3.0	1.0 ~ 1.2	120~140	19~21	50~60	10~20
3.2	3.0~4.0	1.0 ~ 1.2	130~170	19~21	45~55	10~20
4.5	4.0~4.5	1.2	190~230	22~24	45~55	10~20

8.3 Parameter vertical for fillet welding (See following illustration.)

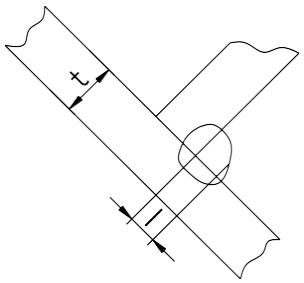
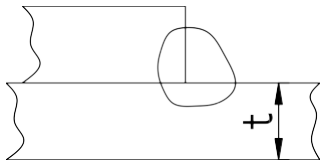
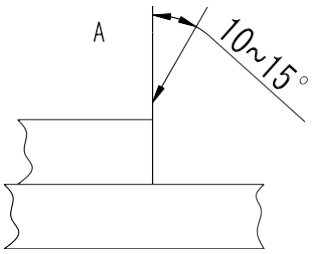


Plate thickness t （ mm ）	Grain size I (mm)	Wire ϕ(mm)	is strong. （ A）	Voltage （ Sun）	Welding speed （ cm/min）	Gas volume （ L/min）
1.2	2.5~3.0	1.0	70~100	18~19	50~60	10~15
1.6	2.5~3.0	1.0 ~ 1.2	90~120	18~20	50~60	10~15
2.0	3.0~3.5	1.0 ~ 1.2	100~130	19~20	50~60	10~20
2.3	3.0~3.5	1.0 ~ 1.2	120~140	19~21	50~60	10~20
3.2	3.0~4.0	1.0 ~ 1.2	130~170	22~22	45~55	10~20
4.5	4.0~4.5	1.2	200~250	23~26	45~55	10~20

8.4 Parameter overlapped for welding (See following illustration)





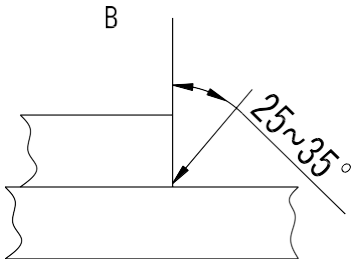


Plate thickness t （ mm ）	Welding position	Wire ϕ(mm)	is strong. （ A）	Voltage （ Sun ）	Welding speed （ cm/min ）	Gas volume （ L/min ）
0.8	THE	0.8~0.9	60~70	16~17	40~45	10~15
1.2	THE	1.0	80~100	18~19	45~55	10~15
1.6	THE	1.0 ~ 1.2	100~120	18~20	45~55	10~15
2.0	THE guard B	1.0 ~ 1.2	100~130	18~20	45~55	15~20
2.3	B	1.0 ~ 1.2	120~140	19~21	45~50	15~20
3.2	B	1.0 ~ 1.2	130~160	19~22	45~50	15~20
4.5	B	1.2	150~200	21~24	40~45	15~20

9. Warning

9.1. Work environment

(1) Welding one relative dry in the environment must that to happen, 90% or less with humidity.

(2) THE workplace temperature measurement -10 ° C and 40 ° C between be.

(3) Avoid it welding in an open area unless it is protected from sunlight or rain. Never expose the machine to rain or water.

(4) Avoid welding dusty in the environment or where caustic gases are.

(5) Avoid the with shielding gas suitable arc welding , so in place, where strong the airflow.

9.2. Security warning!

An overcurrent/overheating protection network is built into the welding machine. If the output current is too high or the welding machine overheats, the machine will stop automatically . However, improper use may lead to machine failure, so please pay attention to:

9.2.1. Ventilation

High currents are generated during welding, so natural ventilation is not enough to cool the machine . Maintain good ventilation of the machine's cooling grilles. The minimum distance between the welding machine and other objects in or around the work area should be 30cm. Adequate ventilation is extremely important for normal operation and the machine's working capacity.

9.2.2. Nothing overflow

Pay attention to the maximum load current (see optional duty cycle). Make sure that the welding current does not exceed beyond the maximum. If you do exceed it, then in case of protection system will be triggered, the output voltage will not be stable and the welding arc will be interrupted. In this case, please reduce the current.

9.2.3. Nothing overcrowding

THE overcrowding can shorten the machine lifespan or to ruin also can do that.

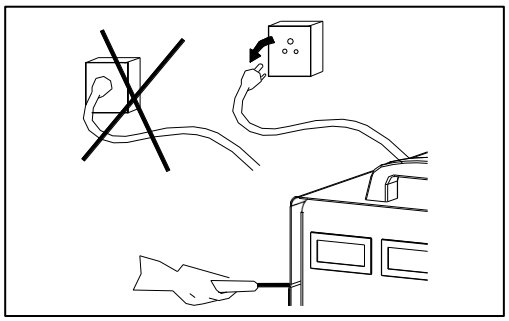
If the welding machine overcrowding in condition yes, one suddenly shutdown may occur work meanwhile. In this the

in case, must to restart the machine. Leave it the built-in fan turned on, that lower to go the temperature the machine inside .

9.2.4. Electric shock avoidance

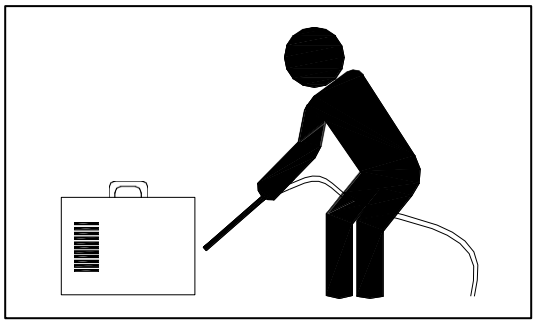
Grounded with terminal has the welding machine. Connect the grounded cable, that ignore static or electric shock.

10. Maintenance



1. Unplug the machine from the outlet before performing any maintenance or repairs on the machine.
2. Make sure the ground wire is properly connected to the ground terminal.
3. Also check the internal gas-electrical connection (especially the connectors) and confirm any loose connections; if there is any burning, remove it with sandpaper and reconnect.
4. Keep hands, hair, loose clothing and tools away from electronic parts, such as fans , when the machine is turned on.

5. Regularly remove dust with clean and dry compressed air; if there is a lot of smoke or air pollution during work, the machine should be cleaned daily.
6. THE compressed air appropriate in degree apply, or the less parts they may fail the welder in the machine.



7. Do not let rain or water touch the machine, if it does, dry it in time and check the insulation with a megameter (including between the connections and between the bracket and connections). Welding can only be continued if there is no abnormality.
8.
9. If long no used the machine, do back Store in its original packaging and in a dry place.

11 Daily inspection

To keep the machine performing at its best, daily checks are necessary. Please check the gun, wire feeder, all PCBs, gas orifices , etc. Remove dust or replace parts if necessary. Keep the machine clean, use original spare parts .

Attention: Only qualified specialist can improve and you can check the machine and the to it belonging equipment if the product faulty.

9.1. Power supply

Part	Investigation	Opinion
Controller panel	1. Operation, switch exchange and insertion.	
	2. Current turns on, to check, that current display is working.	
Fan	1. Check that the fan works and the His voice is also normal.	If not works or bad sound gives out, look inside.
Power supply	1. Turn on the power supply and check whether the vibration is normal, the temperature of the holder and instruments, and whether there is any hum or color flicker.	
Other	1. Look and, that the gas connection is it available, Are the mount and connections in good condition?	

9.2. Welding gun

Part	Investigation	Opinion
Pipe end	1. Check, that the end of the tube is fixed or the tip is curved.	Possible gas leakage the not fixed pipe end because of.
	2. Look, that is it stained the pipe end.	Stains can lead to gun damage . Use a splash guard.
Contact mountain	1. Check, that the contact The tip is properly attached.	Not fixed context mountain uncertain to the arch can lead.
	2. Check, that the contact mountain physically complete.	A physically truncated contact tip can lead to an unstable arc and the arc will automatically terminate.
Wire feeder hose	1. Make sure and, that match is between the wire and the feed tube.	If not matches the diameter the wire and the dispenser The pipe may lead to an unstable bend. Replace if necessary.
	2. Make sure to about, that does not bend to or rabbit the wire dispenser tube	Bending or stretching uncertain for dosing and may cause arcing. Replace if necessary.
	3. Check for accumulated dust . or splash the wire dispenser inside , which can inhibit that.	If find food or splash remove away.
	4. Check that the wire feeder and O-ring are physically complete.	Physically truncated feeding tube or O- shaped locking ring may cause excessive splashing. Replace them if necessary.

Carburettor	1. Make sure that the The carburetor is set to the prescribed range and is not clogged.	Weld defects and gun damage can occur if the atomizer is not adjusted or the atomizer is not suitable.

9.3. Wire dispenser

Part	Investigation	Opinion
Pressure adjustment tab	1. Check, that the pressure adjuster ear fixed and place it in the ideal position.	Uncertain for welding can lead the non-fixed pressure adjustment tab.
Wire feeder hose	1. Check for dirt or splashes inside the tube or near the feed wheel.	Remove away the food.
	2. Check, that the diameter does it match the wire and the dispenser hoses .	Unevenness in wire diameter and feed hose can lead to unnecessary spatter and an unstable arc.
	3. Check, that the rod and dispenser groove concentric ?	Uncertain arc possibility.
Wire feed wheel	1. Check, that does it match the wire diameter and the feed wheel.	If they do not match these the conditions the can lead to excessive spatter and an unstable arc.
	2. Check if the wire groove is clogged .	Replace Who if necessary.
Pressure aligner wheel	1. Look and, that the pressure aligner The wheel spins easily and is physically complete.	Uneven wire feed may occur due to uncertain winding or physical deficiencies and arch.

9.4. Cables

Part	Investigation	Opinion
Gun cable	1. Look to is there no curled up the gun cable.	tangled gun cable leads to unstable wire guidance and arcing.
	2. Check, that the for connectors is it loose his relationship.	
Output cable	1. Check, that the cable physically complete.	Appropriate measures must be taken to obtain a stable weld and prevent possible electric shock.
	2. Check, that the insulation damaged or loose the relationship.	
Input cable	1. Check, that the cable physically complete.	
	2. Check, that the insulation damaged or loose the relationship.	
Grounded cable	1. Check, that the grounded cable fixed and there is no short circuit.	Suitable action must to bring the to prevent possible electric shock.
	2. Look and, that the welder equipment well grounded.	

12. THE Machine Connection Diagram