CUTTING EDGE WELDING

USER'S MANUAL

GORILLA POCKETMIG 225 DP

MIG/MAG IGBT Inverter Technology
Double Pulse
Welding Power Source

GORILLA®

Introduction

First of all, thank you for choosing an IWELD welding or cutting machine!

Our mission is to support your work with the most up-to-date and reliable tools both for DIY and industrial application.

We develop and manufacture our tools and machines in this spirit.

All of our welding and cutting machines are based on advanced inverter technology, reducing the weight and dimensions of the main transformer.

Compared to traditional transformer welding machines the efficiency is increased by more than 30%.

As a result of the technology used and the use of quality parts, our welding and cutting machines are characterized by stable operation, impressive performance, energy efficient and environmentally friendly operation.

By activating the microprocessor control and welding support functions, it continuously helps maintain the optimum character of welding or cutting.

Read and use the manual instructions before using the machine please!

The user's manual describes the possible sources of danger during welding, includes technical parameters, functions, and provides support for handling and adjustment but keep in mind it doesn't contain the welding knowledge!

If the user's manual doesn't provide you with sufficient information, contact your distributor for more information!

In the event of any defect or other warranty event, please observe the „General Warranty Terms".

The user manual and related documents are also available on our website at the product data sheet.

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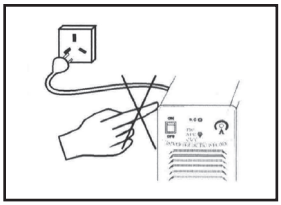
WARNING!

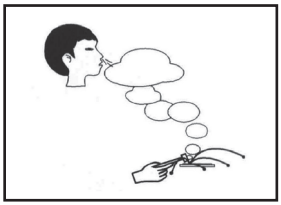
Welding is a dangerous process! The operator and other persons in the working area must follow the safety instructions and are obliged to wear proper Personal Protection Items. Always follow the local safety regulations! Please read and understand this instruction manual carefully before the installation and operation!

- The switching of the machine under operation can damage the equipment.
- After welding always disconnect the electrode holder cable from the equipment.
- Always connect the machine to a protected and safe electric network!
- Welding tools and cables used with must be perfect.
- Operator must be qualified!



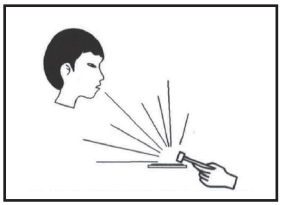
ELECTRIC SHOCK: may be fatal

- Connect the earth cable according to standard regulation.
- Avoid bare hand contact with all live components of the welding circuit, electrodes and wires. It is necessary for the operator to wear dry welding gloves while he performs the welding tasks.
- The operator should keep the working piece insulated from himself/herself.



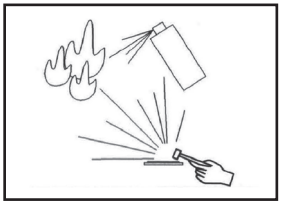
Smoke and gas generated while welding or cutting can be harmful to health.

- Avoid breathing the welding smoke and gases!
- Always keep the working area good ventilated!



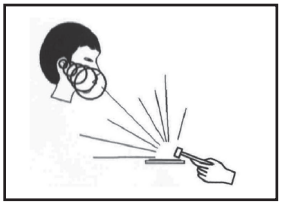
Arc light-emission is harmful to eyes and skin.

- Wear proper welding helmet, anti-radiation glass and work clothes while the welding operation is performed!
- Measures also should be taken to protect others in the working area.



FIRE HAZARD

- The welding spatter may cause fire, thus remove flammable materials from the working area.
- Have a fire extinguisher nearby in your reach!

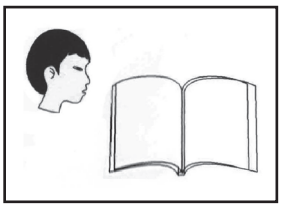


Noise can be harmful for your hearing

- Surface noise generated by welding can be disturbing and harmful. Protect your ears if needed!

Malfunctions

- Check this manual first for FAQs.
- Contact your local dealer or supplier for further advice.



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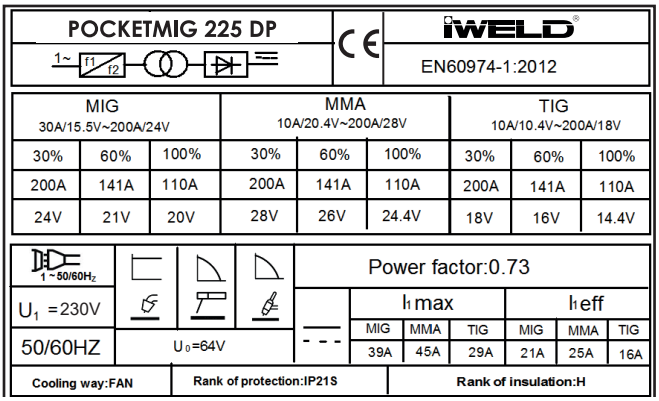
1. The main parameter

GORILLA			POCKETMIG 225 DP
Art. Nr.			800MIG225DP
FUNCTIONS	GENERAL	Inverter type	IGBT
		LCD	✓
		Number of Programs	-
	MIG	Synergic Control	✓
		Double Pulse	✓
		2T/4T	✓
		Compact Design	✓
		Number of Wire Feeder Rolls	2
PARAMETERS	Accessories MIG Torch		MIG IGrip 150 4m
	Optional MIG Torch		-
	Phase number		1
	Rated input Voltage		230V AC ±10%, 50/60 Hz
	Max./eff. input Current		39A / 21A
	Power Factor (cos φ)		0.73
	Efficiency		85 %
	Duty Cycle (10 min/40 °C)		**200A/24V @ 30% 110A/20V @ 100%**
	Welding Current Range (MIG)		30A-200A
	Output Voltage		10V-28V
	No-Load Voltage		64V
	Insulation		H
	Protection Class		IP21S
	MIG Welding Wire Diameter		Ø 0.8 - 1.0 mm
	Size of Coil		Ø 200 mm, 5kg
	Weight		13kg
	Dimensions (LxWxH)		520x220x390mm



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2. Installation

2-1. Input wire connection

1. Each machine is equipped with primary power wire, according to the input voltage, please connect the primary wire to the suitable voltage class.
2. The primary wire should be connected to the corresponding socket to avoid oxidization.
3. Use multi-meter to see whether the voltage value varies in the given range.

2-2. Connection of output wires

1. Connect the terminal of the earth clamp with the negative output, another side is clamped on the workpeace
2. Connect the MIG torch with the output terminal on the wire feeding machine, insert the welding wire through the MIG torch manually.
3. Connect the control cable socket to the wire feeder by control cable.
4. Connect the wire feeding machine input cable with the positive terminal of power source. The control cable of wire feeding machine should be connected with the control connector of power source.

2-3. Welding wire reel installation

1. Install the wire reel on the holder of wire feeding machine, the hole of wire reel should align with fixed pin on the holder
2. Choose different wire feeding groove according to the wire dimension.
   Note: aluminum welding choose U-shape groove, other welding wire choose the V-shape groove.
3. Loose the nut of wire pressing roller, thread the welding wire from the spool through the input guide tube, through the roller groove and into the outlet guide tube. Note: adjust the wire pressing roller and impact the wire, to make sure the wire will not slide. Avoid the wire deformation due to the oversize pressure
4. Release the wire by rotating the wire reel anticlockwise. In order to avoid wire loose, the new wire reel will fix the top of wire on the edge of wire reel. Please cut off this top of wire.
5. Choose different wire feeding groove position according to the wire diameter.
6. Press "wire check" button to lead out the wire.

2-4. Connection of Shielding Gas Bottle

Connect the CO_2 hose, which come from the wire feeder to the copper nozzle of gas bottle. The gas supply system includes the gas bottle, the air regulator and the gas hose.
The heater cable should be plug into the socket of machine's back side, and use the hose clamp to tighten it to prevent leaking or air-in, so that the welding spot is protected.
Please note:

1. Leakage of shielding gas affects the performance of arc welding.
2. Avoid the sun shine on the gas cylinder to eliminate the possible explosion of gas cylinder due to the increasing pressure of gas resulted from the heat.
3. It is extremely forbidden to knock at gas cylinder and lay the cylinder horizontally.
4. Ensure no person is up against the regulator, before the gas release or shut the gas output.
5. The gas output volume meter should be installed vertically to ensure the precisely measuring.
6. Before the installation of gas regulator, release and shut the gas for several time in order to remove the possible dust on the sieve to avail the gas output.

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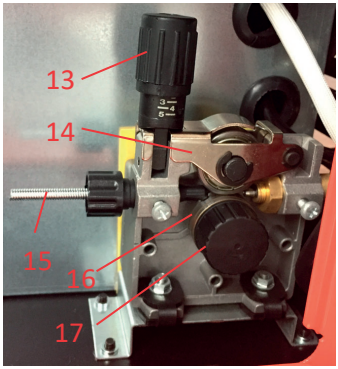

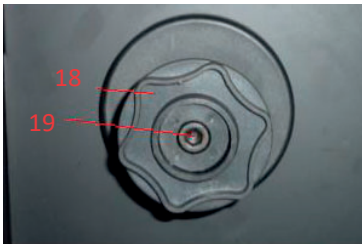

1.	Left knob / welding mode selection knob/mig voltage refine
2.	Left button/ home button
3.	Right knob /parameter adjust knob
4.	Right button / parameter adjust button /wire speed/diameter/ inductance /2t4t/hot start/arc force
5.	MIG torch 'euro style' connection socket
6.	Positive (+) welding output terminal
7.	Negative (-) welding output terminal
8.	Polar conversion line
9.	Power switch
10.	Welding gas inlet
11	Power cable
13	Wire tension adjustment
14	Wire tension arm & support roller
15	Wire input guide
16	Wire drive roller
17	Drive roller retainer
18	Wire spool retainer
19	Spool brake adjustment

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3. Operation

3-1. Controls for MIG welding

Switch the machine on using the mains power switch (9). Wait 5 seconds for the digital control program to load up. Press the Left button (2) to mode section, and select the mode by Left knob (1), and press the Left knob (1) to confirm the selection.

The multifunction digital display will show two numbers. On the left is the preset welding voltage, on the right is the preset wire feeding speed. These values are adjusted by rotating the Right knob (3). Because of the synergic digital programming, both the voltage and the wire speed will adjust together.

To adjust the voltage independently, Rotate Left Knob (1) to adjust the welding voltage. This will change and give the display screen as below.

Then use the Left knob (1) to adjust the welding voltage -5~+5V from the standard synergic setting. This will not change the wire speed. It is recommended for ease of use that the wirefeed target speed is adjusted first and then the voltage setting fine- tuned if necessary. Refer to the Welding Settings Quick Reference Chart on page 21 and inside the wirefeed door for recommended common settings.

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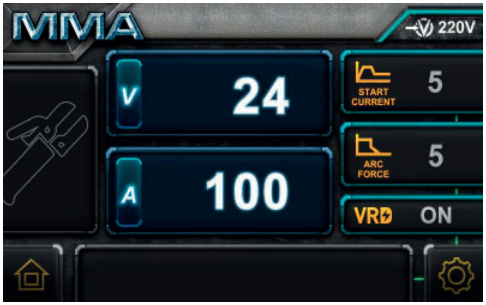
Press the Right button (4) again to adjust the inductance of the welding arc. Use the Right Knob (3) to adjust the inductance from -10 (less inductance) to +10 (more inductance).

A quick note regarding inductance – this effectively adjusts the intensity of the welding arc. inductance makes the arc 'softer', with less weld spatter. Higher inductance gives a stronger driving arc which can increase penetration. Optimum inductance settings are affected by many welding variables such as: material type, shielding gas joint type, welding amperage, wire size.

The default value of inductance is 10, it is recommended to keep this value unless the operator is an experienced welder.

- Press the Right Button (4) again to return to the main wires peed/voltage adjustment screen. If the control panel is not adjusted after 5 seconds it will also return to the primary MIG adjustment mode. Or press the Left/Right (1)/(3) to return to the primary MIG adjustment mode directly.
- During welding the screen display will change to show the actual welding voltage and welding current as pictured below

2T/4T function: press the Right Button (4) ,2T/4T Selection Switch to move between 2T and 4T modes. 4T operation means the trigger is pulled once to start welding and pulled again to stop. This is useful for long weld joints. 2T mode, the trigger must be depressed and held during welding.



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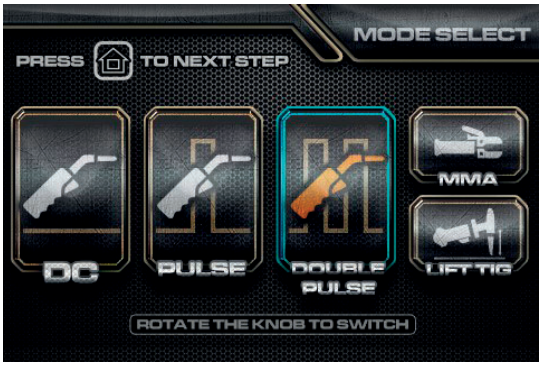
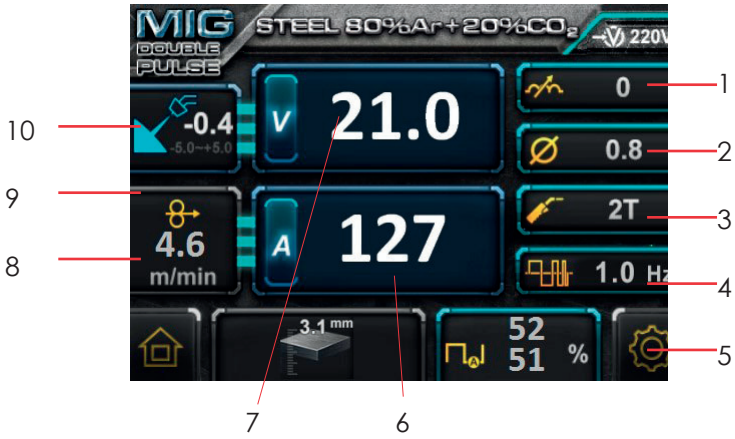
3-2. MIG\DOUBLE PULSE Control Panel





1. Inductance (from -10 to 10)
2. Wire Diameter (0.8/0.9/1.0/1.2)
3. 2T\4T
4. Pulse Frequency (from 1.0 to 2.5)
5. W, Pulse Width (from 20 to 80)
   A, Base Current (from 20 to 99)
6. Welding Current (from 30 to 200)
7. Welding Voltage
8. Workpiece Thickness
9. Wire Feeding Speed
10. Fine Adj. of Welding Voltage

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Wire check function: press the Right Button (4) again to enter to the wire check mode, rotate Right knob (3) to select ON/OFF

Feeding the wire

- Remove the conical nozzle (24) and the welding tip (25) from the torch. The conical nozzle is removed by turning clockwise and pulling off simultaneously. The welding tip threads out of the tip adapter.
- With the wire feed cover door still open pull the torch trigger (20) and check that the wire is feeding smoothly through the feed roller and into the torch
- Now stretch the torch lead and handle out as straight as possible from the machine and select the wire check function. This will start the feed motor running at full speed to feed the wire through the torch liner.
- Once the wire comes out past the end of the torch neck, pull the torch trigger or press any button on the display to stop the automatic wire feed.
- Close the wire feed cover door
- Replace the welding tip (25) and conical nozzle (24) back onto the torch neck and trim off any excess wire

You are now ready to weld!

MMA/STICK mode operation

Note - MMA/Stick Welding requires an MMA lead set .

- Connect Earth Lead Quick Connector (23) to the negative (-) output welding terminal (7).
- be strong contact with clean, bare metal, with no corrosion, paint or scale at the contact point

- Connect the ARC/electrode holder lead (optional) to the positive (+) welding output terminal Note – some welding electrode types utilize different connection polarity. If in doubt, contact the electrode manufacturer
- Turn the machine on at the Mains Power Switch (10).
- Press the Left button (2) to mode section, and select the mode by Left knob (1), and press the Left knob (1) to confirm the MMA selection.

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When welding the display will change to show actual welding volts and amperage.

VRD: VRD stands for Voltage Reduction Device. The open circuit voltage at the output terminals of an MMA welding power source is high enough to potentially cause an electric shock to a person if they come into contact with the live terminals. VRD is a safety system that reduces this open circuit voltage to a level where the risk of electric shock is minimized. It does, however, make striking of the arc more difficult. Press the Right button (4) to switch VRD on/off.

Lift TIG operation

Note - TIG operation requires an argon gas supply, TIG torch, consumables and gas regulator. These accessories are not included standard with the MIG-S; contact your supplier for further details.

- Connect Earth Lead Quick Connector (23) to the positive (+) output welding terminal (6).

Connect Earth Clamp (22) to the work piece. Contact with workpiece must be strong contact with clean, bare metal, with no corrosion, paint or scale at the contact point.

- Connect the TIG torch power lead to the negative (-) welding output terminal (7).
- Connect the gas supply to the TIG torch.
- Turn the machine on at the Mains Power Switch (10).
- Press the Left button (2) to mode section, and select the mode by Left knob (1), and press the Left knob (1) to confirm the LIFT TIG selection.

The screen will show the preset LIFT TIG welding current. This can be adjusted by rotating the Right Knob (3)

- When welding the display will change to show actual welding volts and amperage.

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4. Welding parameters

The option of the welding current and welding voltage directly influences the welding stability, welding quality and productivity. In order to obtain the good welding quality, the welding current and welding voltage should be set optimally. Generally, the setting of weld condition should be according to the welding diameter and the melting form as well as the production requirement.
The following parameter is available for reference.

4.1. Parameter for butt-welding (Please refer to the following figure.)

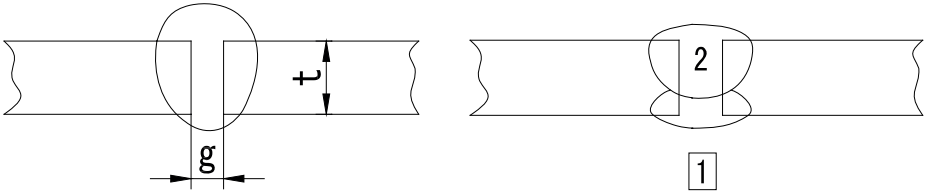


Plate thickness t (mm)	Gap g (mm)	Wire Ø (mm)	Welding current (A)	Welding voltage (V)	Welding speed (cm/min)	Gas volume (l/min)
0.8	0	0.8~0.9	60~70	16~16.5	50~60	10
1.0	0	0.8~0.9	75~85	17~17.5	50~60	10~15
1.2	0	1.0	70~80	17~18	45~55	10
1.6	0	1.0	80~100	18~19	45~55	10~15
2.0	0~0.5	1.0	100~110	19~20	40~55	10~15
2.3	0.5~1.0	1.0 or 1.2	110~130	19~20	50~55	10~15
3.2	1.0~1.2	1.0 or 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

4.2. Parameter for flat fillet welding (Please refer to the following figure.)

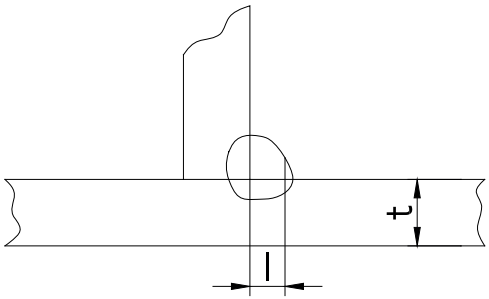


Plate thickness t (mm)	Gap g (mm)	Wire Ø (mm)	Welding current (A)	Welding voltage (V)	Welding speed (cm/min)	Gas volume (l/min)
1.0	2.5~3.0	0.8~0.9	70~80	17~18	50~60	10~15
1.2	2.5~3.0	1.0	70~100	18~19	50~60	10~15
1.6	2.5~3.0	1.0 ~ 1.2	90~120	18~20	50~60	10~15
2.0	3.0~3.5	1.0 ~ 1.2	100~130	19~20	50~60	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

4.3 Parameter for fillet welding in the vertical position (Please refer to the following figure.)

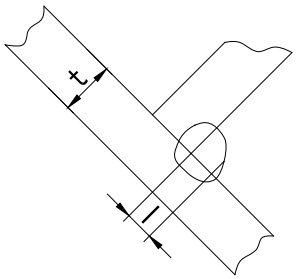
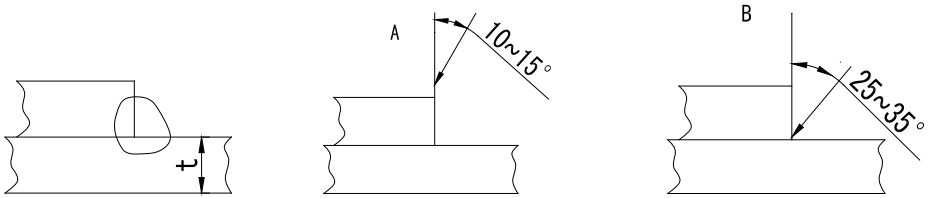


Plate thickness t (mm)	Gap g (mm)	Wire Ø (mm)	Welding current (A)	Welding voltage (V)	Welding speed (cm/min)	Gas volume (l/min)
1.6	2.5~3.0	1.0 ~ 1.2	90~120	18~20	50~60	10~15
2.0	3.0~3.5	1.0 ~ 1.2	100~130	19~20	50~60	10~20
2.3	3.0~3.5	1.0 ~ 1.2	120~140	19~21	50~60	10~20
3.2	3.0~4.0	1.0 ~ 1.2	130~170	22~22	45~55	10~20
4.5	4.0~4.5	1.2	200~250	23~26	45~55	10~20
3.2	1.0~1.2	1.0 or 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



4.4 Parameter for Lap Welding (Please refer to the following figure.)

Plate thickness t (mm)	Gap g (mm)	Wire Ø (mm)	Welding current (A)	Welding voltage (V)	Welding speed (cm/min)	Gas volume (l/min)
1.2	A	1.0	80~100	18~19	45~55	10~15
1.6	A	1.0 ~ 1.2	100~120	18~20	45~55	10~15
2.0	A or 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
4.5	1.2~1.5	1.2	150~170	21~23	40~50	10~15

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Precautions

Workspace

1. Welding equipment free of dust, corrosive gas, non-flammable materials, up to 90% humidity for use!
2. Avoid welding outdoors unless protected from direct sunlight, rain, snow, work area temperature must be between -10 °C and +40°C.
3. Wall to position the device at least 30 inches away.
4. Well-ventilated area to perform welding.

Safety requirements

Welding provides protection against overvoltage / overcurrent / overheating. If any of the above events occurs, the machine stops automatically. However, over- stress damage to the machine , keep the following guidelines :

1. Ventilation . When welding a strong current going through the machine , so the machine is not enough natural ventilation for cooling . The need to ensure adequate cooling, so the distance between the plane and any object around it at least 30 cm . Good ventilation is important to normal function and service life of the machine.
2. Continuously , the welding current does not exceed the maximum allowable value. Current overload may shorten its life or damage to the machine .
3. Surge banned ! Observance of tension range follow the main parameter table . Welding machine automatically compensates for voltage , allowing the voltage within permissible limits of law. If input voltages exceed the specified value , damaged parts of the machine .
4. The machine must be grounded! If you are operating in a standard, grounded AC pipeline in the event of grounding is provided automatically . If you have a generator or foreign , unfamiliar , non-grounded power supply using the machine , the machine is required for grounding connection point earth to protect against electric shock .
5. Suddenly stopping may be during welding when an overload occurs or the machine overheats . In this case, do not restart the computer , do not try to work with it right away, but do not turn off the power switch , so you can leave in accordance with the built-in fan to cool the welding machines .

WARNING!

If the welding equipment is used with the welding parameters above 180 amperes, the standard 230V electrical socket and plug for 16 amp circuit breaker is not sufficient for the required current consumption, it is necessary to use the welding equipment with 20A, 25A or even to the 32A industrial fuses! In this case, both the plug and the plug socket fork have to be replaced to 32A single phase fuse socket in compliance with all applicable rules. This work may only be carried out by specialists!

Maintenance

1. Remove power unit before maintenance or repair!
2. Ensure that proper grounding!
3. Make sure that the internal gas and electricity connections are perfect and tighten, adjust if necessary, if there is oxidation, remove it with sandpaper and then reconnect the cable.
4. Hands, hair, loose clothing should be kept away under electric parts, such as wires, fan.
5. Regularly dust from the machine clean, dry compressed air, a lot of smoke and polluted air to clean the machine every day!
6. The gas pressure is correct not to damage components of the machine.
7. If water would be, for example. rain, dry it in the machine and check the insulation properly! Only if everything is all right, go after the welding!

8 When not in use for a long time, in the original packaging in a dry place.

CERTIFICATE OF EUROPEAN STANDARD

Manufacturer:

IWELD Ltd.
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II. Rákóczi Ferenc street 90/B
Tel: +36 24 532-625
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Item:

GORILLA POCKETMIG 225 DP
MIG/MAG IGBT Inverter Technology
Double Pulse Welding Power Source

Applied Rules (1):

EN 60204-1:2005
EN 60974-10:2014,
EN 60974-1:2018

Country of origin: PRC

(1) References to laws, rules and regulations are to be understood as related to laws, rules and regulations in force at present.
Manufacturer declares that the above specified product is complying with all of the above specified rules and it also complying with the essential requirements as specified by the Directives 2014/35/EU, 2014/30/EU, 2006/42/EU and 2011/65/EU

Serial No.:

CE

Halásztelek (Hungary), 14/03/21

Managing Director:
András Bódi