

# **MANUAL BOOK**

**WP-60A**

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**DC INVERTER AIR PLASMA  
CUTTING MACHINE**

## SAFETY PRECAUTIONS

**Follow these precautions carefully. Improper use of any welder can result in injury or death.**

1. ONLY CONNECT WELDER TO A POWER SOURCE FOR WHICH IT WAS DESIGNED. The specification plate on the welder lists this information. When welding outdoors only use an extension cord intended for such use.
  2. ONLY OPERATE WELDER IN DRY LOCATIONS and on cement or masonry floor. Keep area clean and un-cluttered.
  3. KEEP ALL COMBUSTIBLES AWAY FROM WORK SITE.
  4. DO NOT WEAR CLOTHING THAT HAS BEEN CONTAMINATED with grease or oil.
  5. KEEP CABLES DRY AND FREE FROM OIL AND GREASE and never coil around shoulders.
  6. SECURE WORK WITH CLAMPS or other means; don't overreach when working.
  7. NEVER STRIKE AN ARC ON A COMPRESSED GAS CYLINDER
  8. DON'T ALLOW THE INSULATED PORTION OF THE ELECTRODE HOLDER TO TOUCH THE WELDING GROUND WHILE CURRENT IS FLOWING.
  9. SHUT OFF POWER AND UNPLUG MACHINE WHEN REPAIRING OR ADJUSTING. Inspect before every use. Only use identical replacement part.
  10. FOLLOW ALL MANUFACTURER'S RULES on operating switches and making adjustments.
  11. ALWAYS WEAR PROTECTIVE CLOTHING when welding . This includes: long sleeved shirt( leather sleeves), protective apron without pockets, long protective pants and boots. When handling hot materials, wear asbestos gloves.
  12. ALWAYS WEAR A WELDER'S HELMET WITH PROTECTIVE EYE PIECE when welding. Arcs may cause blindness. Wear a protective cap underneath the helmet.
  13. WHEN WELDING OVERHEAD, BEWARE OF HOT METAL DROPPINGS. Always protect the head, hand, feet and body.
  14. KEEP A FIRE EXTINGUISHER CLOSE BY AT ALL TIMES.
  15. DO NOT EXCEED THE DUTY CYCLE OF THE MACHINE. The rated cycle of a welding machine is the percentage of a ten minute period that the machine can operate safely at a given output setting.
  16. KEEP ALL CHILDREN AWAY FROM WORK AREA. When storing equipment, make sure it is out of reach of children.
  17. GUARD AGAINST ELECTRIC SHOCK. DO not work when tired. Do not let body come in contact with grounded surfaces.
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## 1. BRIEF INTRODUCTION

WP60A INVERTER AIR PLASMA CUTTING MACHINES are all our own high-new technical products with special purpose power parts and up-to-date inverter control IC. The machines hold a safe lead of traditional products and other inverter cutting machines by their cutting thickness, seam smooth degree, arc generation and cutting current, and the machine is compressed air and the cost of cutting is very low. All stainless steel, copper, Aluminum, titanium, cast steel, alloy steel, carbon steel and compound metal material can be cutting in all position.

## 2. OPERATING CONDITION AND WORK SURROUNDING

### 1. Operating condition: Reliable grounding protection

Voltage of power source:  $1 \times 220/230/240V \pm 10\%$

### 2. WORK SURROUNDING

Relative humidity: Not more than 90% (average monthly temperature not more than 20 °C)

Ambient temperature: -10°C ~ 40°C

The cutting site should have no harmful gas, chemicals, molds and inflammable matter, explosive and corrosive medium. Avoiding rain water. And operating in rain is not allowed.

## 3. MAIN TECHNICAL SPECIFICATIONS

MODEL	WP60A
Power Voltage	$1 \times 220/230/240V \pm 10\%; 50/60\text{Hz}$
Input Current	50A
Rated Output Current	60A
Current Adjusting Range	20-60A
No-load Voltage	230V
Rated Duty Cycle	60%
Working Mode	Contacting/notContacting
Air Pressure	0.2-0.4MPa
Cutting Thickness	25mm
After Flow Time	10S
Outline Dimensions	$560 \times 220 \times 360$

## 4. DESCRIPTION OF THE ERECTION

1. The voltage of the output ends is very high. Don't touch with the output ends, cutting torch and other conductive parts while setting up an electric circuit.

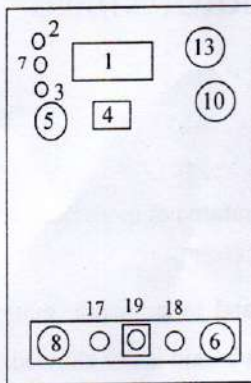
2. For the safety of the equipment and the persons, the customer must correctly make grounding or protection according to the power supply system: using 4 mm<sup>2</sup> lead to connect the protection grounding of the cutting machine.

3. Cutting operating should be carried out in dry and good ventilating area. The surrounding objects should be not less than 0.5m away from the cutting machine.

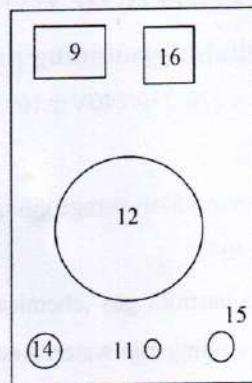
4. Before cutting, the operator should read the operation instructions carefully and use the machine correctly.

## 5. THE SKETCH OF FUNCTION AND CONNECTING

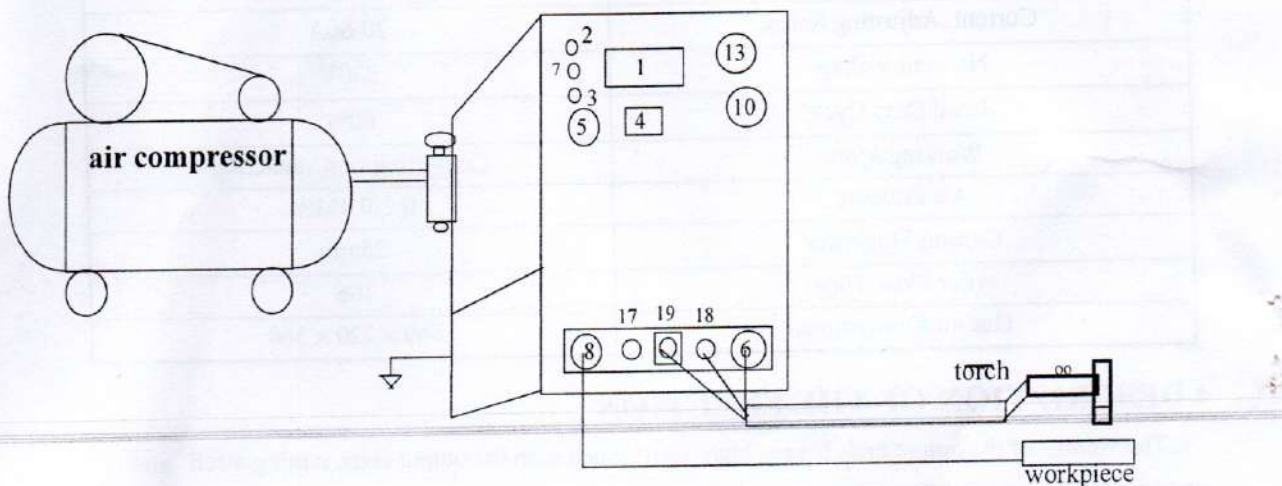
**FRONT PANEL**



**BACK PANEL**



1. indication of cutting current 2. power indication 3. warning indication 4. cutting/testing gas switch  
 5. cutting current regulator 6. cutting torch cable 7. indication of lower air 8. workpiece cable  
 9. nameplate 10. air pressure-reduced valve 11. pressure air entrance 12. fan  
 13. indication of air pressure-reduced valve 14. grounding column 15. input cable 16. power switch  
 17. fuse 20A 18. Pilot arc (lead arc) 19. torch control



## 6. METHOD OF THE OPERATION

1. Connect the machine correctly according the sketch. And switch on the air compressor until to its rated pressure. It will be turned off automatically to adjust the air pressure-reduced valve to the proper value.(0.2-0.4MPa generally)

2. Join the power switch of the cutting machine. The power indication lamp lights.The cooling fan begins working. Put the function switch in the position of "air testing" .Then the air spouts from the cutting torch. Let the function switch in the position of " cutting", and press the torch switch. The air spouts from the torch also.

3. Selecting suitable cutting current and air pressure according to the thickness and material of the workpiece and the cutting speed.The selecting standard for the spray nozzle of the torch: The spray nozzle not change color while cutting.

4. CUTTING: Hold the cutting torch in the beginning position, and let the nozzle towards the workpiece with 15 angle of inclination. The nozzle touches the workpiece, and press the torch switch, Now flow the air first and high frequency arc generated.The high frequency can be cut off automatically after the arc generation ,Begin to move the cutting torch after the workpiece is pierced through. Loosen the switch after finish cutting.

**7.This product is subject to the understanding that if any defect in manufacture or material shall appear within 12 months from date of consumer sale , the manufacturer will arrange for such defect to be rectified without charge on the sales invoice and warranty card. (except for any personal trouble)**

## General Troubles and Problem Solving

TROUBLE	CAUSES	PROBLEM SOLVING
Power lamp not light	<ol style="list-style-type: none"> <li>1. No electricity input</li> <li>2. Power switch of machine fails</li> </ol>	<ol style="list-style-type: none"> <li>1. Check incoming line</li> <li>2. Replace the switch</li> </ol>
Fan not rotating	<ol style="list-style-type: none"> <li>1. Fan power line is off</li> <li>2. enclosure blocks the fan due to deformation</li> <li>3. The fan fail</li> </ol>	<ol style="list-style-type: none"> <li>1. reconnect the line</li> <li>2. reform the enclosure</li> <li>3. replace the fan</li> </ol>
Warning lamp lights	<ol style="list-style-type: none"> <li>1. Over heat</li> <li>2. Over current</li> </ol>	<ol style="list-style-type: none"> <li>1. Cutting after cooling</li> <li>2. Input voltage too low or the machine fails</li> </ol>
No output	<ol style="list-style-type: none"> <li>1. over current protection</li> <li>2. The machine fails</li> </ol>	<ol style="list-style-type: none"> <li>1. Over load using</li> <li>2. Maintenance in manufacturer or service center</li> </ol>
Output current decreased	<ol style="list-style-type: none"> <li>1. Input voltage too low</li> <li>2. Input line is too thin</li> </ol>	<ol style="list-style-type: none"> <li>2. Power line is thickened</li> </ol>
Current can not be regulated	<ol style="list-style-type: none"> <li>1. connecting line of the potentiometer is off</li> <li>2. Potentiometer of current regulation fails</li> </ol>	<ol style="list-style-type: none"> <li>1. Reconnecting the line</li> <li>2. Replace the potentiometer</li> </ol>
High frequency arc can not be generated	<ol style="list-style-type: none"> <li>1. The switch fails</li> <li>2. Incorrect selection for the air flow, the electrode fails</li> <li>3. High frequency arc generator fails</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the switch</li> <li>2. Replace the electrode</li> <li>3. Replace the high frequency arc generator</li> </ol>

			
<b>WARNING</b>	<ul style="list-style-type: none"> <li>Do not touch electrically live parts or electrode with skin or wet clothing.</li> <li>Insulate yourself from work and ground.</li> </ul>	<ul style="list-style-type: none"> <li>Keep flammable materials away.</li> </ul>	<ul style="list-style-type: none"> <li>Wear eye, ear and body protection.</li> </ul>
Spanish <b>AVISO DE PRECAUCION</b>	<ul style="list-style-type: none"> <li>No toque las partes o los electrodos bajo carga con la piel o ropa mojada.</li> <li>Aislese del trabajo y de la tierra.</li> </ul>	<ul style="list-style-type: none"> <li>Mantenga el material combustible fuera del área de trabajo.</li> </ul>	<ul style="list-style-type: none"> <li>Protéjase los ojos, los oídos y el cuerpo.</li> </ul>
French <b>ATTENTION</b>	<ul style="list-style-type: none"> <li>Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension.</li> <li>Isolerez-vous du travail et de la terre.</li> </ul>	<ul style="list-style-type: none"> <li>Gardez à l'écart de tout matériel inflammable.</li> </ul>	<ul style="list-style-type: none"> <li>Protégez vos yeux, vos oreilles et votre corps.</li> </ul>
German <b>WARNUNG</b>	<ul style="list-style-type: none"> <li>Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung!</li> <li>Isolieren Sie sich von den Elektroden und dem Erdboden!</li> </ul>	<ul style="list-style-type: none"> <li>Entfernen Sie brennbares Material!</li> </ul>	<ul style="list-style-type: none"> <li>Tragen Sie Augen-, Ohren- und Körperschutz!</li> </ul>
Portuguese <b>ATENÇÃO</b>	<ul style="list-style-type: none"> <li>Não toque partes elétricas e electrodos com a pele ou roupa molhada.</li> <li>Isole-se da peça e terra.</li> </ul>	<ul style="list-style-type: none"> <li>Mantenha inflamáveis bem guardados.</li> </ul>	<ul style="list-style-type: none"> <li>Use proteção para a vista, ouvido e corpo.</li> </ul>
Japanese <b>注意事項</b>	<ul style="list-style-type: none"> <li>通電中の電気部品、又は溶材にヒフやぬれた布で触れないこと。</li> <li>施工物やアースから身体が絶縁されている様にして下さい。</li> </ul>	<ul style="list-style-type: none"> <li>燃えやすいものの側での溶接作業は絶対にしてはなりません。</li> </ul>	<ul style="list-style-type: none"> <li>目、耳及び身体に保護具をして下さい。</li> </ul>
Chinese <b>警告</b>	<ul style="list-style-type: none"> <li>皮肤或湿衣物切勿接觸帶電部件及綽條。</li> <li>使你自已與地面和工件絕緣。</li> </ul>	<ul style="list-style-type: none"> <li>把一切易燃物品移離工作場所。</li> </ul>	<ul style="list-style-type: none"> <li>佩戴眼、耳及身體勞動保護用具。</li> </ul>
Korean <b>위험</b>	<ul style="list-style-type: none"> <li>전도체나 응집봉을 젖은 황깁 또는 피부로 절대 접촉치 마십시오.</li> <li>모재와 접지를 접촉치 마십시오.</li> </ul>	<ul style="list-style-type: none"> <li>인화성 물질을 접근 시키지 마세요.</li> </ul>	<ul style="list-style-type: none"> <li>눈, 귀와 몸에 보호장구를 착용하십시오.</li> </ul>
Arabic <b>تحذير</b>	<ul style="list-style-type: none"> <li>لا تلمس الأجزاء التي يسري فيها التيار الكهربائي أو الألكترود بجلد الجسم أو بالملاص المبللة بالماء.</li> <li>ضع عازلا على جسمك خلال العمل.</li> </ul>	<ul style="list-style-type: none"> <li>ضع المواد القابلة للاشتعال في مكان بعيد.</li> </ul>	<ul style="list-style-type: none"> <li>ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.</li> </ul>

READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.

LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.

LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.