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› [PLASMARGON 520TSCPF 3-in-1 Plasma Cutter Welder Combo Machine Instruction Manual](#)

## PLASMARGON 520TSCPF

# PLASMARGON 520TSCPF 3-in-1 Plasma Cutter Welder Combo Machine Instruction Manual

Model: 520TSCPF | Brand: PLASMARGON

## 1. INTRODUCTION

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This manual provides essential information for the safe and effective operation, setup, and maintenance of your PLASMARGON 520TSCPF 3-in-1 Multifunctional Plasma Cutter Welder Combo Machine. This unit integrates plasma cutting, HF TIG welding, pulse TIG welding, and Stick/MMA/ARC welding functionalities. Please read this manual thoroughly before use and retain it for future reference.

## 2. SAFETY INFORMATION

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Always prioritize safety when operating welding and cutting equipment. Failure to follow safety precautions can result in serious injury or death. Ensure you wear appropriate personal protective equipment (PPE) including welding helmet, gloves, protective clothing, and safety shoes. Work in a well-ventilated area to avoid inhaling fumes. Keep a fire extinguisher nearby. Disconnect power before performing any maintenance or changing accessories.

## 3. PACKAGE CONTENTS

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Verify that all items are present upon unpacking:

- 1 x 520TSCPF Machine
- 1 x 2.5M PT-31 Plasma Cutter Torch
- 3 x Consumable Set for PT-31 Torch
- 1 x 2.5M HF TIG Welding Torch (WP-17)
- 3 x Consumable Set for WP-17 TIG Torch
- 1 x 1.5M Earth Clamp
- 1 x 1.5M Electrode Holder
- 1 x Air Pressure Valve (Air filter & regulator)
- Air hose connections



Figure 3.1: Included accessories for the 520TSCPF machine.

# 520TSCPF Consumables & Accessories



Figure 3.2: Detailed view of consumables and accessories with numbered labels.

## 4. SETUP

### 4.1 Power Connection

The 520TSCPF supports dual voltage 110V/220V. Ensure the correct power plug is used for your electrical supply. Connect the power cable securely to the machine and a grounded outlet.

### 4.2 Ground Clamp Connection

Connect the ground clamp cable to the designated terminal on the machine. Securely attach the ground clamp to the workpiece or work table, ensuring good electrical contact.

### 4.3 Air Pressure Valve Installation (for Plasma Cutting)

Install the air pressure valve (air filter & regulator) to the machine's air inlet. Connect an air compressor to the valve using the provided air hose connections. Adjust the air pressure according to the cutting requirements.

### 4.4 Torch Connections

- **Plasma Cutter Torch (PT-31):** Connect the PT-31 torch to the designated plasma cutting output.
- **HF TIG Welding Torch (WP-17):** Connect the WP-17 TIG torch to the TIG welding output. Ensure gas line is connected if using shielding gas.
- **Electrode Holder (for Stick/MMA/ARC):** Connect the electrode holder cable to the appropriate terminal for Stick/MMA/ARC

welding.

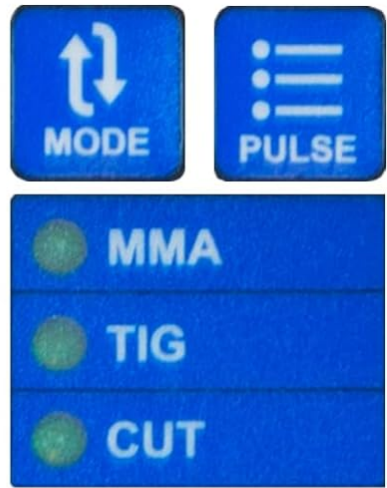


Figure 4.1: Overview of the 520TSCPF machine with connected torches and accessories.

## 5. OPERATING MODES

The 520TSCPF features an upgraded digital panel to switch machine functions with the push of a button. Select the desired welding or cutting mode using the 'Mode' button on the front panel.

# 520TSCPF



LED Current Digital Display

Adjust Current

Ground Clamp

HF TIG Welder Plasma Cutter

Electrode Holder

Figure 5.1: Front panel of the 520TSCPF showing LED current digital display and mode selection buttons.

## 5.1 Plasma Cutter

This mode offers 10-50Amp DC Inverter current output with HF arcing for powerful cutting. Max ideal cutting thickness is 1/2 inch. Uses non-hazardous compressed air to cut stainless steel, alloy steel, mild steel, copper, and aluminum.

- **Current Output:** 50A @ 220V, 30A @ 110V
- **Max Cutting Thickness:** 1/2 inch (12mm)

# Plasma Cutter

**50A Current Output @220V**  
**30A Current Output @110V**

**Equipped with PT31 plasma cutting torch, it can effectively cut copper, stainless steel, carbon steel, aluminum and other metals.**

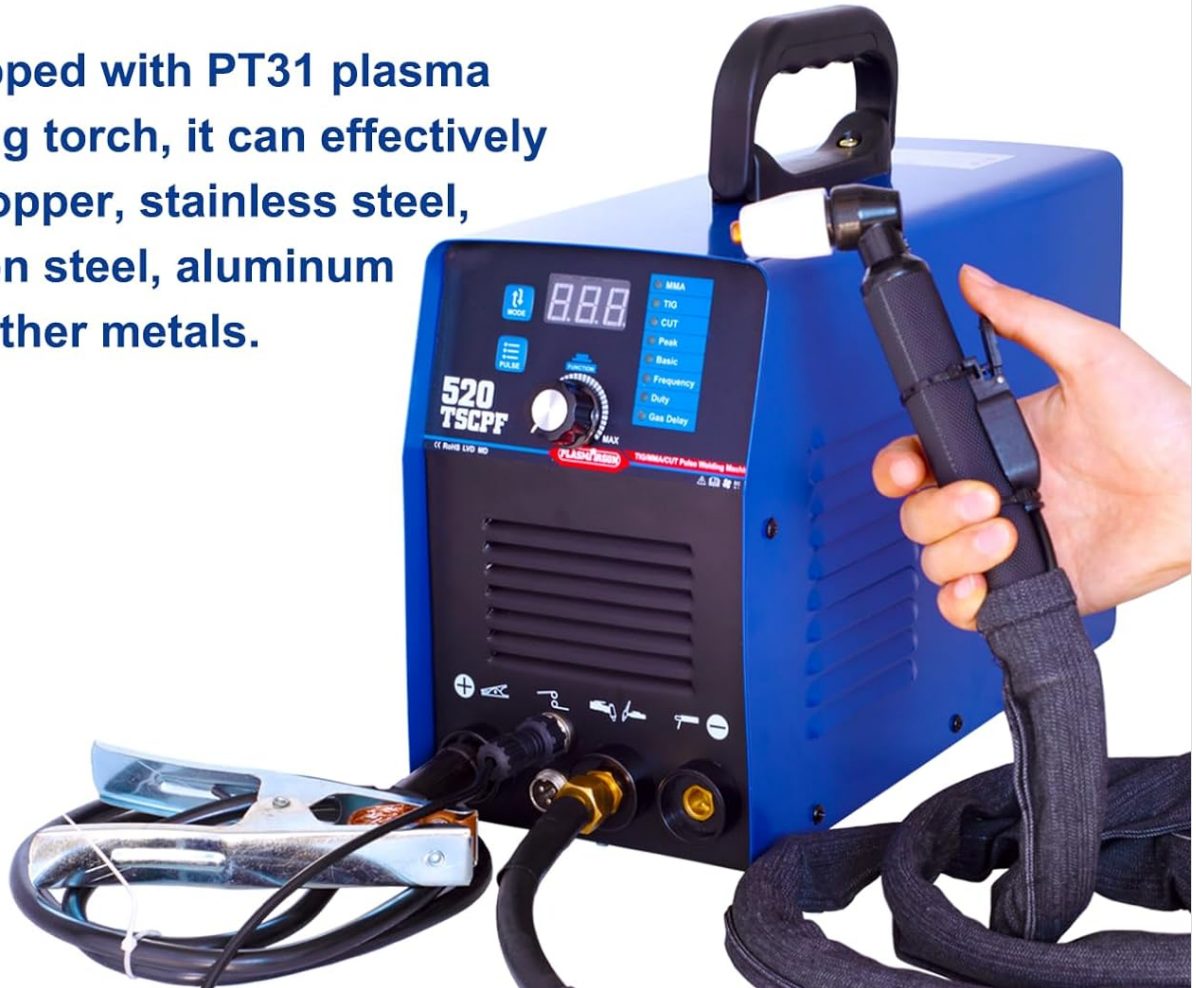


Figure 5.2: Plasma cutting operation with the 520TSCPF machine.

## 5.2 HF TIG Welder and Pulse TIG Welder

Provides 10-200AMP DC TIG electric current output. The PULSE function enhances welding bead appearance and extends tungsten electrode life. Suitable for quality TIG welding on stainless steel or steel and precise welding of thinner-gauge materials. Foot-pedal compatible (not included in standard accessories).

- **Current Output:** 200A @ 220V, 130A @ 110V
- **Note:** Sharpen tungsten head before using TIG welder for optimal results.

# HF TIG Welder PULSE TIG Welder

Newly upgraded Pulse TIG welding function, Better at welding thin sheets  
Easy to use.

200A Current Output @220V

130A Current Output @110V



Figure 5.3: TIG welding operation with the 520TSCPF machine.

## 5.3 STICK/MMA/ARC Welder

Offers 10-180Amps output current. Features hot arc starting and anti-stick functionality, resulting in a deep welding pool and minimal spatter. Suitable for welding various acid and basic welding rods from 1.6mm to 4.0mm.

- **Current Output:** 180A @ 220V, 140A @ 110V

# Stick / MMA Welder

180A Current Output @220V

140A Current Output @110V

Stick Welder does not require gas to perform welding. More suitable for outdoor work.



Figure 5.4: Stick welding operation with the 520TSCPF machine.

## 5.4 Official Product Video

Your browser does not support the video tag.

Video 5.1: Demonstration of the YESWELDER CT-520, showcasing cutting, HF TIG, Pulse TIG, and Stick welding functions. This video provides a visual guide to the operational capabilities of a similar 3-in-1 machine.

## 6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your machine. Always disconnect the power supply before performing any maintenance.

- **Cleaning:** Periodically clean the machine's exterior and ventilation openings to prevent dust and debris buildup. Use compressed air to clear internal components if necessary.
- **Consumables:** Inspect and replace torch consumables (nozzles, electrodes, collets, diffusers) regularly to maintain weld/cut quality. Refer to the package contents for included consumable sets.
- **Cables:** Check all cables for damage, fraying, or loose connections before each use. Replace damaged cables immediately.

## 7. TROUBLESHOOTING

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If you encounter issues, refer to the following common troubleshooting steps:

- **No Power:** Check power cable connection, wall outlet, and circuit breaker. Ensure the machine's power switch is ON.
- **Poor Arc/Cut:** Verify correct current settings for the material and thickness. Check torch consumables for wear and replace if necessary. Ensure proper grounding of the workpiece. For plasma cutting, confirm adequate air pressure. For TIG, ensure tungsten is sharpened.
- **Overheating:** If the machine shuts down due to overheating, allow it to cool down. Ensure ventilation openings are clear and the fan is operating.
- **Gas Flow Issues (TIG):** Check gas cylinder level, regulator settings, and gas line connections for leaks or blockages.

For persistent issues, contact PLASMARGON customer support.

## 8. SPECIFICATIONS

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- **Model:** 520TSCPF
- **Input Voltage:** Dual Voltage 110V/220V
- **Plasma Cutting Output:** 10-50A DC
- **TIG Welding Output:** 10-200A DC
- **Stick/MMA/ARC Welding Output:** 10-180A
- **Max Plasma Cutting Thickness:** 1/2 inch (12mm)
- **Material:** Metal electronic components
- **Item Weight:** 9.8 kg
- **Parcel Dimensions:** 48 x 37 x 29 cm
- **Power Source:** AC
- **Manufacturer:** PLASMARGON

# 520TSCPF

Dual Voltage 110V/220V

Multi-process Plasma cutter welder Combo  
3 in 1 machine



Figure 8.1: Dimensions of the PLASMARGON 520TSCPF machine.

## 9. WARRANTY AND SUPPORT

The PLASMARGON 520TSCPF machine comes with a 12-month warranty. For warranty claims, technical support, or any inquiries, please refer to the contact information provided with your purchase or visit the official PLASMARGON website.