

xTool MFS-K001-02A

xTool Safety Set MFS-K001-02A Instruction Manual

For P2, P2S, M1, D1 Pro Laser Machines

1. INTRODUCTION

The xTool Safety Set (Model MFS-K001-02A) is designed to enhance the safety of your laser engraving and cutting operations. This system provides automatic flame detection and extinguishing capabilities, offering peace of mind during machine operation. It is compatible with various xTool laser machines, including the P2, P2S, M1, and D1 Pro, when used within an appropriate enclosure.



2. SAFETY PRECAUTIONS

- **Enclosure Use:** This safety set is designed for use with laser machines operating within an enclosed space (up to 0.13m³). Open-frame machines require an enclosure for effective flame extinguishing.
- **CO2 Gas:** The system uses CO2 gas for extinguishing, which is pollution-free and non-toxic. However, ensure proper ventilation after an extinguishing event.
- **Gas Bottle Replacement:** The CO2 gas bottles are consumable. Replace them after they have been discharged. Always use genuine xTool replacement bottles.
- **Flame Detection:** The system is designed to detect flames that may cause significant damage. Small, momentary flames that do not pose a risk may not trigger the extinguishing mechanism.
- **Regular Checks:** Periodically check the system's status indicators to ensure it is functioning correctly.

3. PACKAGE CONTENTS

Verify that all components are present in your xTool Safety Set package:

- xTool Safety Set Main Control Unit
- Flame Detection Sensor
- CO2 Gas Bottles (typically 4 included)
- Connection Cables
- Mounting Accessories
- User Manual (this document)

4. SETUP

Follow these steps to install your xTool Safety Set:

1. **Position the Main Unit:** Place the main control unit in a stable location near your laser machine, ensuring it is easily accessible and its indicators are visible.
2. **Connect to Laser Machine:** Connect the safety set to the designated port on your xTool laser machine using the provided cable. Refer to your laser machine's manual for specific port locations.
3. **Install Flame Sensor:** Mount the flame detection sensor inside the laser machine's enclosure, ensuring it has a clear view of the working area. Secure it using the provided mounting accessories.
4. **Insert CO2 Gas Bottles:** Open the compartment on the main unit and carefully insert the CO2 gas bottles. Ensure they are securely twisted into place. The system typically comes with 4 gas bottles.

Compatible with xTool P2, M1, D1 Pro and Other

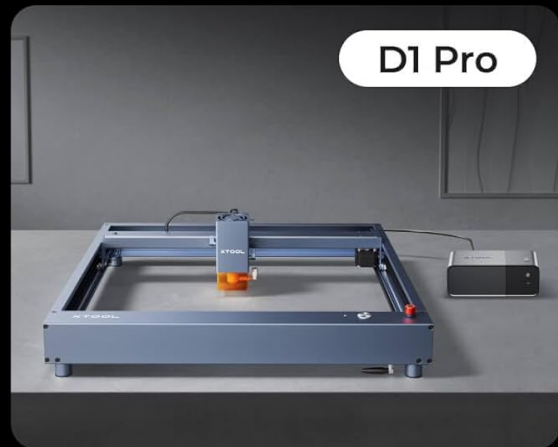


Image 4.1: The xTool Safety Set connected to a compatible laser machine, demonstrating its compact placement.

Replaceable Gas Bottle

Come with 4 Gas Bottles



Image 4.2: Illustrates the process of inserting replaceable CO2 gas bottles into the safety set's main unit.

5. OPERATING INSTRUCTIONS

The xTool Safety Set operates primarily in an automatic mode, but also offers manual control:

5.1 Automatic Flame Extinguishing Mode

When a flame is detected within the laser machine's enclosure, the system initiates a four-step safety protocol:

1. **Auto Flame Detection:** The sensor detects the presence of a flame.
2. **Auto Alarm Triggering:** An audible alarm is activated to alert the user.
3. **Auto Power Cut:** The laser machine's power supply is automatically cut off to prevent further operation.
4. **Auto Flame Extinguishing:** CO2 gas is released into the enclosure to suppress the flame.

Ensure Peace of Mind for all Laser Users



Step 1 Auto Flame Detection



Step 2 Auto Alarm Triggering



Step 3 Auto Power Cut



Step 4 Auto Flame Extinguishing

Image 5.1: Visual representation of the four-step automatic flame extinguishing process.

5.2 Manual Flame Extinguishing Mode

In addition to automatic detection, you can manually activate the extinguishing function by pressing the dedicated flame extinguishing button on the main control unit. This allows for immediate response if you observe a flame before the automatic system triggers.

6. MAINTENANCE

To ensure optimal performance and safety, regular maintenance is required:

- **Gas Bottle Replacement:** After the system has discharged CO₂ gas, the used bottles must be replaced. Ensure the system is powered off before replacing bottles.
- **Sensor Cleaning:** Periodically inspect and gently clean the flame detection sensor to ensure it remains free of dust or debris that could obstruct its view.
- **System Check:** Regularly check the indicator lights on the main unit to confirm proper functioning.

Consult the troubleshooting section if any error indicators are present.

7. TROUBLESHOOTING

Issue	Possible Cause	Solution
System does not extinguish a small flame.	The system is designed to respond to flames that pose a significant risk. Minor, momentary flames may not trigger the extinguishing mechanism.	This is normal operation. For any persistent or growing flame, use the manual extinguishing button.
Alarm sounds but no flame is visible.	Sensor obstruction or malfunction.	Check the sensor for any debris or blockages. Ensure it is securely connected. If the issue persists, contact customer support.
CO2 gas does not discharge when triggered.	Empty gas bottles or improper installation.	Verify that the gas bottles are correctly installed and not empty. Replace if necessary.

8. SPECIFICATIONS

- **Model Number:** MFS-K001-02A
- **Product Dimensions:** 16.14 x 12.99 x 4.33 inches
- **Item Weight:** 6.27 pounds
- **Manufacturer:** xTool
- **Compatibility:** All 455nm blue diode laser or CO2 laser machines (within a 0.13m³ enclosed space). Specifically compatible with xTool P2, P2S, M1, D1 Pro.
- **Extinguishing Agent:** CO2 Gas (pollution-free & non-toxic)



Image 8.1: Illustrates the compatibility of the xTool Safety Set with various xTool laser machine models.

9. WARRANTY AND SUPPORT

xTool is committed to providing excellent customer service and support for your Safety Set. For any inquiries or assistance, please utilize the following channels:

9.1 Multi-Channel Service







- **Email Support:** For detailed inquiries and technical assistance.
- **Live Chat:** For immediate questions and quick support.
- **Phone Support:** For direct communication with a support representative.
- **Facebook Group:** Join the xTool community for peer support and official announcements.

9.2 Technical Service Team

Our dedicated technical service team aims to provide prompt responses, typically within 24 hours, to ensure

your issues are resolved efficiently.

Related Documents - MFS-K001-02A

	<p>XTool Fire Safety Set User Manual: Installation and Operation Guide</p> <p>Comprehensive user manual for the XTool Fire Safety Set, detailing installation, operation, specifications, and maintenance for laser processing machines. Learn how to protect your workspace from fire hazards.</p>
	<p>XTool Fire Safety Set User Manual</p> <p>User manual for the XTool Fire Safety Set, detailing its features, installation, operation, and maintenance for desktop laser processing machines.</p>
	<p>xTool MetalFab Laser Welder 1200W Quick Start Guide</p> <p>Comprehensive quick start guide for the xTool MetalFab Laser Welder 1200W, covering installation, setup, operation, and maintenance. Learn how to set up your laser welder for optimal performance.</p>
	<p>XTool P2S Quick Start Guide: Setup, Operation, and Maintenance</p> <p>A concise and SEO-optimized HTML guide for the XTool P2S laser cutter, covering unboxing, setup, basic operation, and maintenance. Learn how to get started with your XTool P2S quickly and efficiently.</p>
	<p>xTool F1 User Manual: Dual Laser Engraver and Cutter Guide</p> <p>Comprehensive user manual for the xTool F1, a 2-in-1 dual laser engraver and cutter. Learn about its features, operation, safety guidelines, and maintenance.</p>
	<p>Guide to Operating xTool F1 with xTool Creative Space (XCS)</p> <p>Learn how to use xTool Creative Space (XCS) software to operate the xTool F1 dual laser engraver. This guide covers installation, connection, material setup, design, parameter settings, preview, and processing.</p>