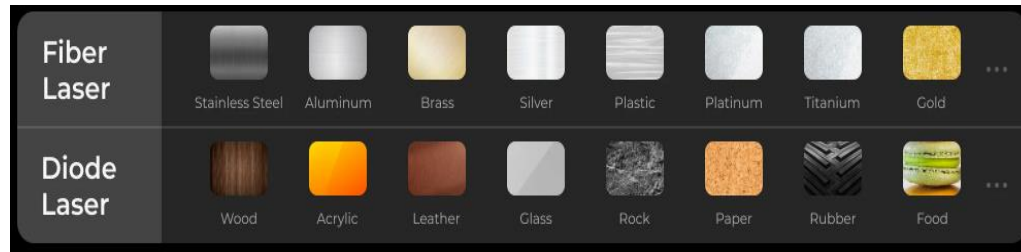# F1 Ultra – Product overview

xTOOL

- **World's First 20W Fiber & 20W Diode Dual Laser, Work on Almost All Materials**

A fiber laser for its exceptional metal engraving performance and a blue diode laser for engraving the most common. F1 Ultra is potent enough for **deep engraving, embossing and cutting on metals, wood, acrylic, etc. materials**.

| Fiber Laser | Stainless Steel | Aluminum | Brass | Silver | Plastic | Platinum | Titanium | Gold |
| Diode Laser | Wood | Acrylic | Leather | Glass | Rock | Paper | Rubber | Food |

Deep Jewelry Engrave

Emboss/Relief

- **Auto Streamline™ with Conveyor**

Ideal for **long materials and batch processing**, perfect for various educational or industrial tasks

220x500mm

Auto Streamline™ Production

- **Designed for Safe Use**

Enclosed Design / Emergency Button / Fire Safety Alarm & Stop / Extraction Fan / USB security key

- **Fast, Powerful and Easy to Use**

Up to **10,000 mm/s** speed

16 MP **Smart camera** for auto focus and smart fill

7GB Offline-use Touchable **Control panel**

3D Curve surface engraving

F1 Ultra – Main Specifications

Point 1: One machine can process almost any material

01 Wide range of consumables

The world's **first 20W Fiber laser +20W Diode laser** machine which can process almost any material.

- ☐ Doide laser: Wood / Leather / Acrylic / Glass / Ceramics / Rubber / Fabric / Slate ....
- ☐ Fiber laser: Gold / Silver / Copper / Platinum / Aluminum / Iron / Most common metals ....

02 High-value of art work

Compared to regular engraving machine, The high-power 20W machine enables **deep and color engraving** of high-value handmade goods.

Deep engraving

Embossing engraving
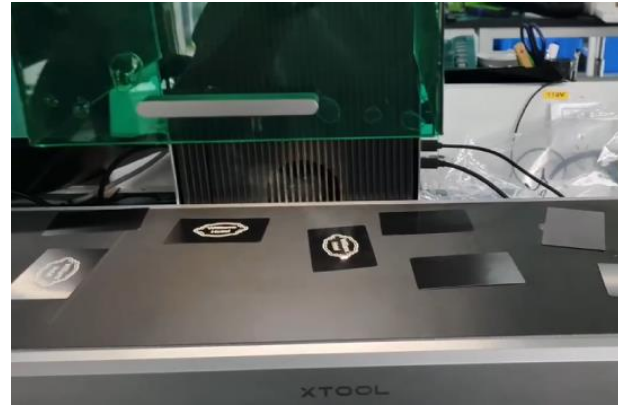
Color engraving

Metal Cutting

Point 2: Everyone can easily possess with factory efficiency

a) The machine uses **a camera and conveyor** to instantly recognize and engrave moving objects.

b) **Batch process**, Reduce production time and minimizes errors, provides industrial level productivity.

c) The machine can operate at speeds of up to **8000 mm/s.**

d) Largest fiber laser table area (220*220mm) for large project or batch processing.

e) Curved surface processing.

Point 4: High security

▫ Clean environment: efficient dust adsorption, no pollution; enclosure filters laser, preventing eye injury.

▫ Enclosed Cover: Most fiber lasers on the market are open machines, which are dangerous because fiber itself is not visible.

Point 5: Meet all In-Store customization needs

• On-site processing: fast and convenient.
• Small in size: suitable for shops.
• Engraving all material in-store

Point 6: Everyone can make money by laser

▫ No assembly is required.

▫ Machine with camera for instant focus on objects

▫ Easy-to-use software: XCS 2.0 software with easy and perfect editing features

▫ Built-in control screen: The processed XCS files will be automatically saved to the control screen, and can be processed even offline

Processing Capacity

Laser Type	20W Diode Laser + 20W Fiber Laser
Processing Mode	Laser Engraving Laser Cutting
Supported Materials	Laser Cuttable: Diode Laser: Paper, Wood, Leather, MDF, Felt, Some dark opaque acrylic Fiber Laser: Brass, Stainless Steel, Aluminum Laser Engravable: Diode Laser: Paper, Wood, Leather, MDF, Stainless steel, Some dark opaque acrylic, Bamboo, Fabric, Dark glass, Ceramic, Jade, Marble, Shale, Cement, Brick, Plated metal, Painted metal Fiber Laser: Stainless Steel, Aluminum, Brass, Sliver, Plastic, Platinum, Titanium, Gold
Working Area	8.6" × 8.6" (220 mm × 220 mm) 8.6" × 19.6" (with conveyor) (220 mm × 500 mm)
Max. Working Speed	10000mm/s
Max. Laser Cutting Capacity (Basswood)	15 mm in Multiple Passes
Max. Laser Cutting Capacity (Acrylic)	12 mm in Multiple Passes
Max. Blade Cutting Capacity	N/A
Max. Processing Height	145 mm
Max. Rotary Engraving Diameter	145 mm

Smart Software

Supported Software	xTool Creative Space/Lightburn
Operating System	Android/iOS/iPad/Windows/macOS
Connection Method	USB/Wi-Fi/IP/Hotspot
Supported Files	SVG/DXF/JPG/JPEG/PNG/BMP/TIF
AImake Compatibility	Yes

Easy Operation

Pre-assembled	Yes
Built-in Camera	16 MP Smart Camera
Positioning Method	Camera Positioning
Focus Mode	Autofocus
Ranging System	/
Preview Method	Smart Camera Preview
	High-speed Light Live Preview

Accuracy & Precision

Laser Spot Size	0.08*0.1mm (20W Diode Laser)
	0.03*0.03mm (20W Fiber Laser)
Positioning Precision	N/A
Ranging Precision	0.5 mm, Camera
Image Resolution	N/A
Motion Accuracy	0.00482 mm

General Information

Safety Certification	Classr 4 Laser Safety
Product Dimensions	273*373*492mm
	10.74" × 11.81" × 11.81"(273 mm × 373 mm × 492 mm)
Product Weight	32.4 lb (14.7kg)
Max. Machine Input Power	250 W - 275 W
Power Adapter Input Voltage	100 V - 240 V, AC 50/60 Hz

Use Scenarios

- Handy Craft
- Gift Customization: gift shop, event, souvenir store
- Jewelry Business
- Metal Cutting
- Laser Marking: small factory