



FORZA

Monster

V250828

Datasheet
Model M1325P150



FORZA

Monster

CO2 laser cutting machine

CUTTING / MARKING / PERFORATION

The FORZA MONSTER is designed to cut and engrave non-metallic materials in industrial environments that require high production, precision, and product versatility.

It easily achieves a cutting and engraving precision of 0.1 mm, offering a working area of 1300 x 2500 mm, making it ideal for high-volume production.

Main Features

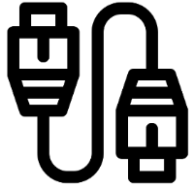
FEATURES	DETAIL
Application	Cutting/Engraving on non-metallic materials
Nominal working area	4.3ft x 8.2ft 1300mm x 2500mm
Laser power rating	150W
Maximum cutting thickness in MDF ⁽¹⁾	15/32in 12mm
Maximum cutting thickness limit in MDF ⁽²⁾	19/32in 15mm
Maximum engraving speed	0.33ft/s 6000mm/min
Maximum cutting speed	0.055ft/s 1000mm/min
Cutting precision ⁽³⁾	± 0.1mm

1. This is the maximum limit at which a burr-free and clean cut can be obtained. Up to this thickness, cutting can be performed continuously.
2. The maximum thickness is the greatest thickness that can be cut under certain parameter settings. It is not recommended to size the machine based on the maximum thickness. When working with thicknesses close to this limit, the range of achievable cutting geometries is significantly restricted due to the high temperatures reached by the material.
3. This precision is indicative for thin materials. As the material thickness increases, precision may decrease.



Special Features

Automatic Feeding



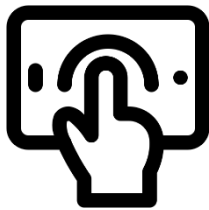
It allows different types of connection, either via USB cable, Ethernet, or as an additional upgrade via Wi-Fi. This makes it easy and simple to load designs compatible with the controller.

Versatile production



Allows cutting and engraving on a wide variety of non-metallic materials, providing versatility in production (works with wood, acrylic, rubber, textiles, cardboard, cardstock, paper, among others).

HMI Touch Screen



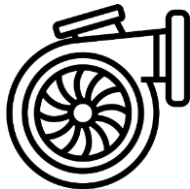
It has a built-in touch screen as a control interface between the user and the machine. The control is intuitive and user-friendly.

Anti-vibration mechanism



The machine's longest axis of movement (Y axis) uses a rack mechanism, which allows for smooth motion transmission without vibration for optimal and precise work.

Triple exhaust fan



The machine includes 3 extractors that ensure efficient removal of smoke generated by the laser cutting process, maintaining a contamination-free environment.

Included air pump



It incorporates a low-vibration, low-noise pump with high airflow to efficiently remove chips generated during production and provide a better finish.

General Specifications

SPECIFICATION	DETAIL
Model	FORZA Monster M1325P150
Laser Type/Technology	Co2 Laser 10.6nm
Nominal fiber laser power	150W
Fiber laser power range	1 a 100%
Output power stability	± 1.5W
Laser working frequency	4 a 5000Hz
Laser source protection level	IP54
Laser source model	MYJG 150W – ZYE Laser
CO2 gas excitation type	Sealed glass tube
Working modes	CUTTING / MARKING / PERFORATION
Preloaded Cut Profile Creation ⁽¹⁾	Yes
Support gases for laser cutting	Air (Integrated pump)
Mechanical protection system	Limit switch detectors
Cutting precision ⁽²⁾	±0.1mm
XY Movement Repeatability	±0.01mm
XY Movement Accuracy	±0.01mm
Nominal working range	4.3ft x 8.2ft 1300mm x 2500mm
Maximum Material Height	2in 50mm
Maximum Engraving Speed	0.33ft/s 6000mm/min
Maximum cutting Speed	0.055ft/s 1000mm/min

- ¹ The parameters are available on the platform library.forzalaser.com. Customers can download them for free, and a local backup is stored on the machine for quick access.
- ² This precision is referenced for thin materials. As material thickness increases, precision may decrease.

XY axis motion system	Rack and Pinion
Z axis motion system	Worm screw drive
Drive mechanism	Servo motors
Smoke extraction system	External motors
Laser source power	1kW
Chiller power rating	0.9kW
Fume extractor power rating	1.6kW
Air pump power rating	0.15kW
Motion and control system power	0.45kW
Peak machine power	4kW
Minimum power for electrical system design ⁽³⁾	3kW
Average energy consumption ⁽⁴⁾	1.8kWh
Operating voltage	Single-phase 220V 50Hz-60Hz
Line current	16A @ 220VAC 1ph

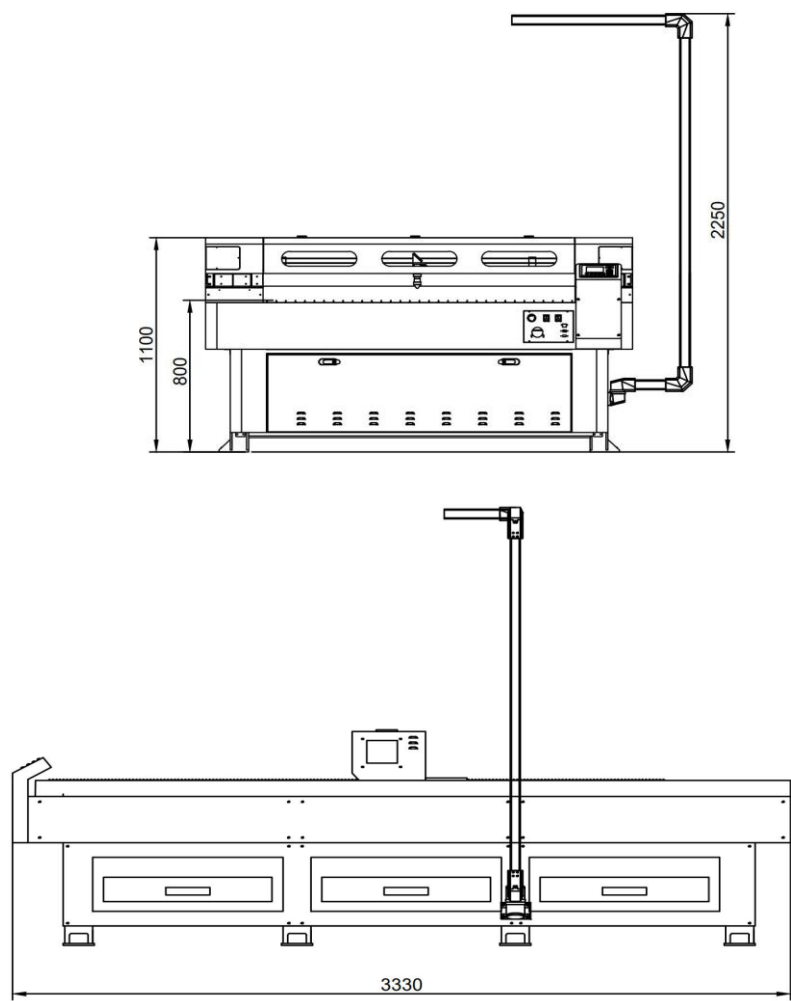
3. The minimum power for electrical sizing is calculated considering the typical power ratings of the laser source and the cooler, along with half the power of the extractor and the machine actuators.

4. The average power consumption is calculated based on 60% of the peak consumption, as not all components remain on continuously during operation. The cycling of systems such as the cooler and laser source reduces this value. For hourly electrical consumption calculations, use the average power consumption.

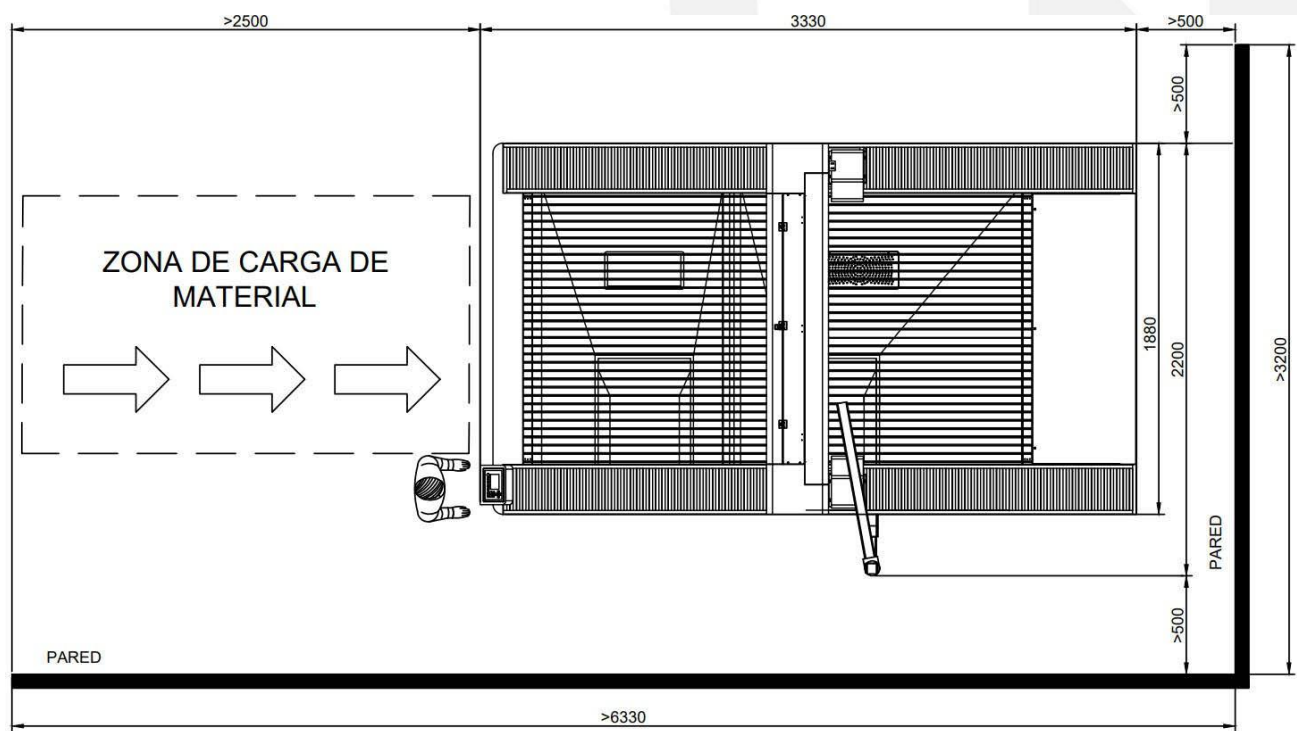
Conductor wire gauge to the thermal-magnetic circuit breaker (MCCB) ⁽⁵⁾	Up to 140°F 60°C (TW, UF)	Up to 194°F 90°C (THHW, THHN)	Voltage
	3 x 12AWG	3 x 14AWG	220VAC 1ph
Recommended MCCB and grounding conductor	MCCB	PE Conductor (Copper)	Voltage
	20A	12AWG	220VAC 1ph
Required Voltage Regulator ⁽⁶⁾	5000 VA		
Controller	RUIDA RDC		
Communication Type	USB, ETHERNET, WIFI (optional)		
Compatible Design Formats	DSP, PLT, BMP, DXF, AI		
Control Interface	HMI touchscreen		
PC Operating Software ⁽⁷⁾	RDworks		
Software Language	English and Spanish		
PC Control Interface	Via touchscreen and manual control		
Cooling Method	Water-cooled		
Chiller Tank Capacity	1.6gal 6L		
Airflow Delivered by Pump	26.42 gal/min 100 L/min		
Equipment Weight	1.2ton 1200kg		
Shipping Weight	1.28ton 1280kg		
Equipment Dimensions	7.2ft x 10.9ft x 7.4ft 2200mm x 3330mm x 2250mm		
Shipping Dimensions	6.9ft x 11.4ft x 4.1ft 2090mm x 3480mm x 1250mm		
Relative Humidity	< 85%		
Operating Ambient Temperature	20 - 35 °C		
Storage Temperature	8 - 30 °C		
Certifications	CE, RoHS		

5. The cable gauge sizing was carried out based on Table 310-15(b)(16) of NOM-001-SEDE for maximum conductor temperatures of 60°C and 90°C, respectively, considering an installation through conduit. For outdoor cable installation, a smaller gauge than indicated in this document may be used, subject to prior consultation with the FORZA Laser technical department.
6. For equipment installation, it must be connected to a voltage regulator of at least 5000VA; this regulator is not included with the machine.
7. An additional computer (not included with the machine) is required, where the necessary software for operating the machine must be installed.

Medidas de la máquina



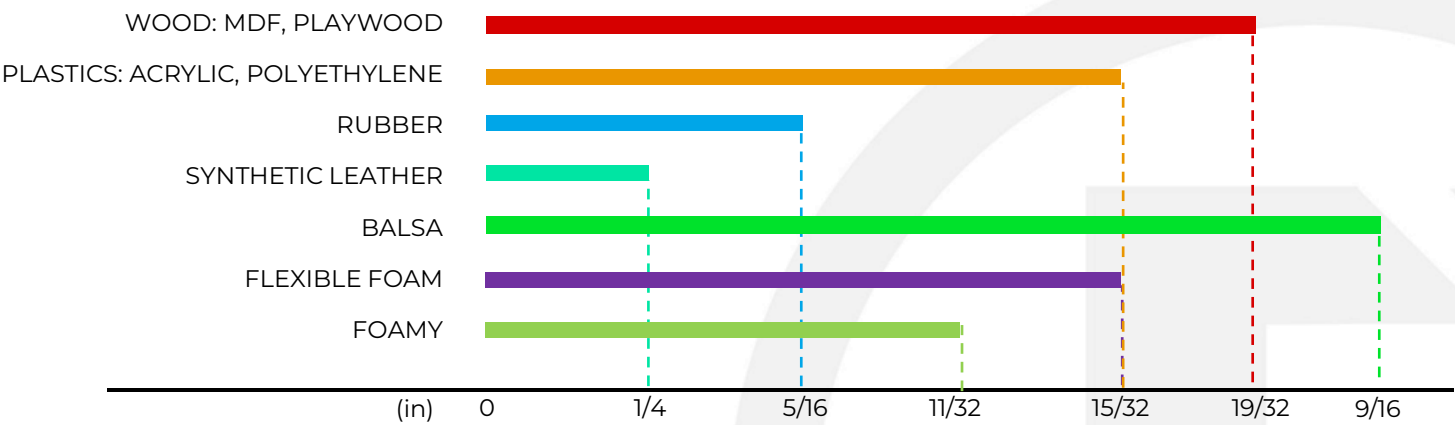
Espacio requerido



Applicable Materials

CUTTING AND ENGRAVING MATERIALS		ENGRAVING MATERIALS	
Wood	Balsa	Anodized Aluminum	Granite
Acrylic	Flexible Foam	Stone	Bone
Polyethylene	Foamy	Marble	Bamboo
Rubber	Fabric	Glass	Wood
Synthetic Leather	Paper	Plastics	Tagua

Cutting Thicknesses by Material



MATERIAL	NOMINAL THICKNESS	
	in	mm
Wood: mdf, playwood	19/32	15
Plastics: acrylic, polyethylene	15/32	12
Rubber	5/16	8
Synthetic leather	1/4	6
Balsa	9/16	16
Flexible foam	15/32	12
Foamy	11/32	9
Fabric: Polyester, Nylon, Cotton	Various thicknesses	
Paper	Various thicknesses	

NOTA: The machine must not be used with materials that emit harmful gases to health or that may damage the machine. For example: PVC, fiberglass, resins, polycarbonate, epoxy, ABS.

Packing List:

- 1 x FORZA Monster machine 150W 
- 1 x Assembly Kit for Cable Trays and Rails 
- 1 x Laser Safety Glasses with Case 
- 2 x Waste collection cart set 
- 6 x Machine leveling feet 
- 1 x HMI touchscreen display 
- 1 x FORZA welcome sign 

- TOOLBOX -

- 1 x Plastic Tool Box 
- 2 x 6" Clamps 
- 1 x Masking Tape 
- 1 x Metric Allen Key Set 
- 1 x Plastic Funnel 
- 1 x Fabric Cleaning Cloth 
- 1 x Pack of Lens Cleaning Wipes 
- 1 x Lens Removal Tools 

- CONSUMABLES -

- 1 x CO2 Laser lens set 

- PERIPHERALS -

- 1 x Automatic Cooler (Chiller) 
- 3 x Industrial Fume Extractors 550W 
- 1 x Automatic Feeding System 

- LICENSES -

- 1 x Software License
- 1 x **FORZA Vectors** license - 1 year
- 1 x **FORZA Academy** full license - 1 year
- 1 x **Super 7 SUPPORT** license - 4 years

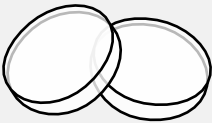
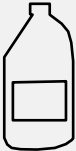
- POWER CABLES AND TRAYS -

- 1 x Gas Extraction Tube/Hose 2m x 6" 
- 1 x FORZA Monster Power Cable 
- 1 x USB to USB Cable 
- 1 x Ethernet Network Cable 
- 2 x PU Hoses for CO2 Tube Cooling 

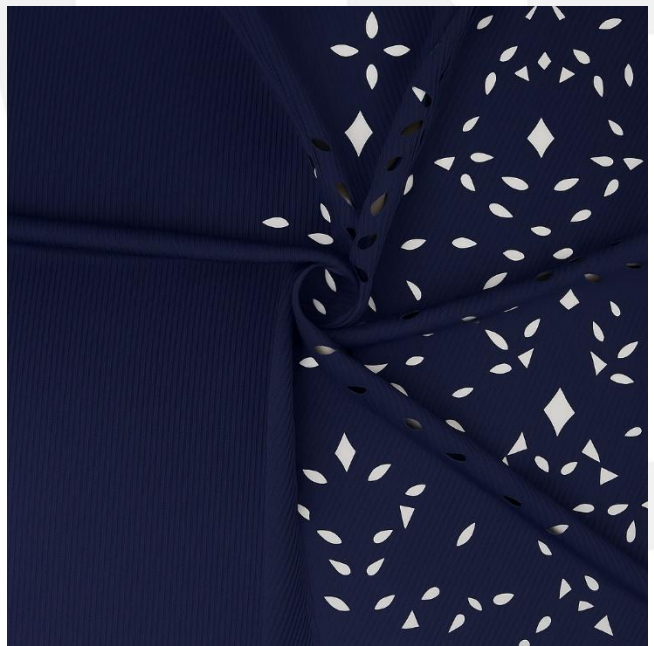
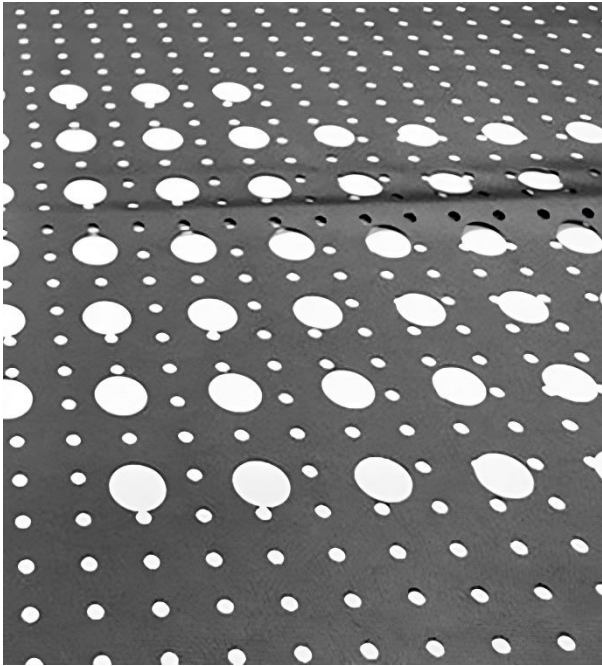
* The reference cables are coated with TW type insulation

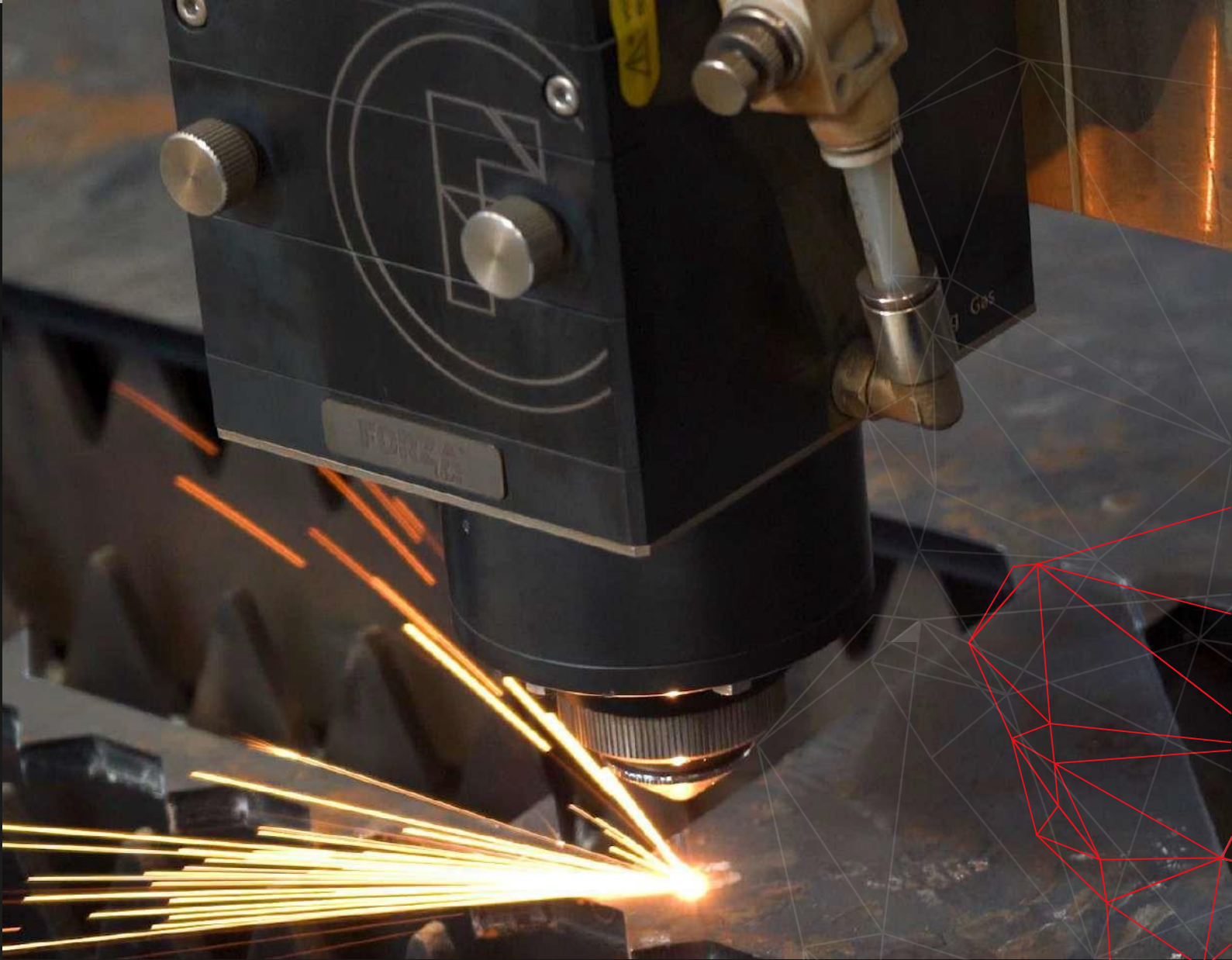
Transport symbols:  (Package),  (Inside the package),  (Installed on the machine).

Consumables:

IMAGE	ITEM	MODEL	DIMENTIONS	LIFETIME
	CO2 Laser lens	CO-LDXXFXXX	Diameter (D) and Focal Length (F) vary by model	200 hours
	Distilled water	XXXX	2gal / 7.5L	2 months
	Blue grease for pinions	XXXX	Lithium grease	6.21 miles 10 000 meters

Manufactured Parts:





At FORZA Laser, laser specialists, our team has everything you need to take your business to the next level.

Find us on our social media



forzalaser.com

FORZA[®]
Laser