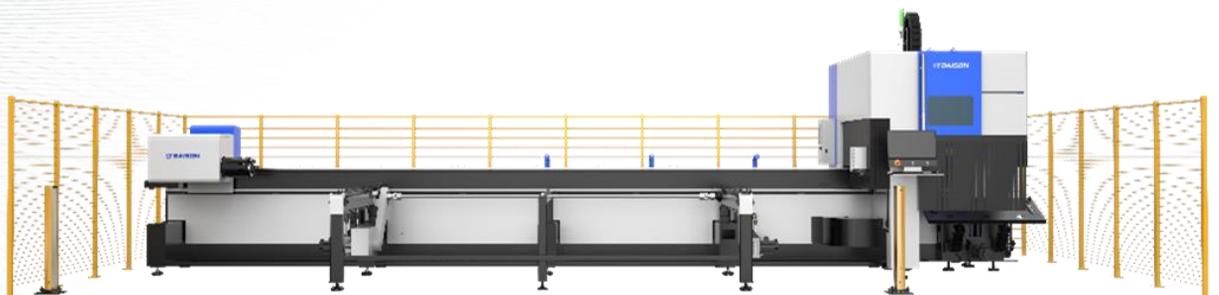


TECHNICAL PROPOSAL

G Series G24C 3000W

Medium Diameter Tube Laser Cutting Machine



*Fence and grating selection, photo for reference

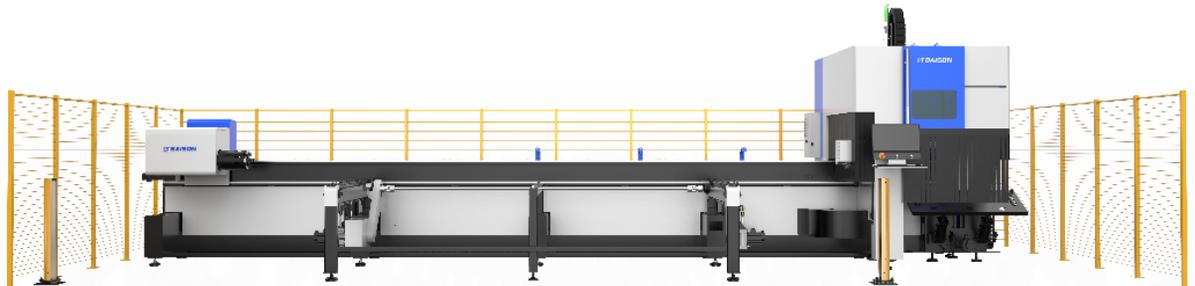
DESCRIPTION

G24C Medium Diameter Tube Laser Cutting Machine

The G Series medium diameter tube laser cutting machine, independently developed and produced by Baison Laser, is specifically designed for the high-speed cutting of a large batch of small and medium-sized tube materials in various sizes and shapes. It reliably cuts a variety of metal tubes, including round, square, angle iron, channel steel, H-beam, I-beam, and special-shaped tubes, crafted from stainless steel, carbon steel, and other metals.

PRODUCT FEATURES

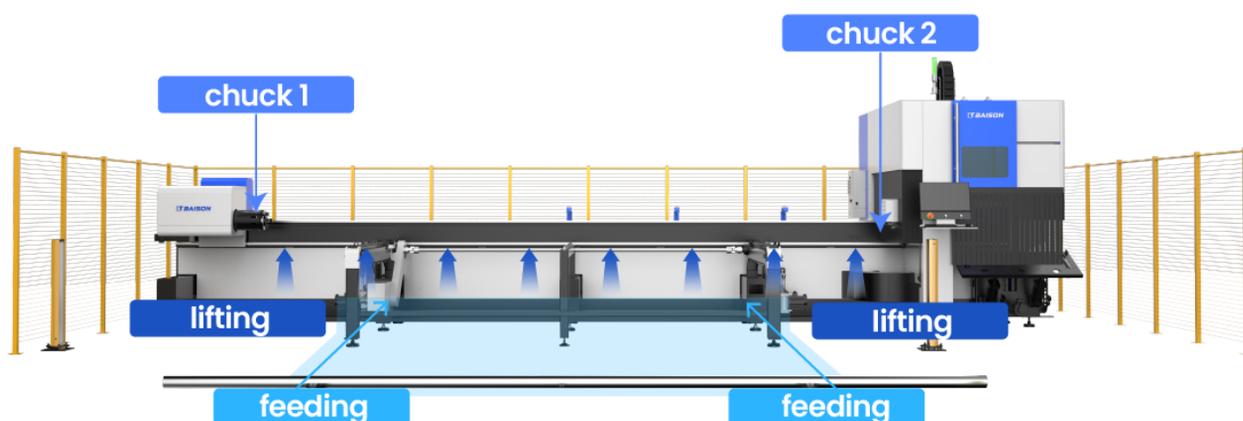
- Full stroke precision square hole chuck.
- Side-hanging machine bed.
- Cuts 90% of market tubes.
- Stronger load-bearing capacity
- Power & precision



Note: Images are for reference only

INTRODUCTION OF 2 CHUCKS PRINCIPLE

The Side-hanging two chucks G24C medium diameter tube laser cutting machine offers a full range of material capacities. The full-stroke chuck, enhanced with pneumatic clamping claws and a dual-row roller system, ensures robust grip and precise rotation. The front chuck is strategically positioned to avoid cutting obstructions, and the rear chuck is equipped with an air-purging system to remove dust, ensuring cutting accuracy.



CHUCK DESCRIPTION

Tube size range	Round tube: $\varnothing 10$ - $\varnothing 240$ mm Square tube: $\square 10 \times 10$ - $\square 220 \times 220$ mm Channel Steel: 22# (need nesting software and specialized workholding fixtures) Angle Iron: 10# (need nesting software and specialized workholding fixtures) I-beam: 22# (need nesting software and specialized workholding fixtures) H-beam: 22# (need nesting software and specialized workholding fixtures)
Max. chuck speed	140r/min
Max. Single Tube Weight	300kg
Claw Stroke	Full Stroke

Note: Images are for reference only

PRODUCT FEATURES

Revolutionized Tube Cutting

G series is applicable to cutting for various shapes of tubes. Whether it's round, square, or irregular profiles such as H beams, I beams, etc. G series has got you covered.



High-Precision Chucks

The fully enclosed square-hole chuck offers one-touch automatic precision clamping and releasing without damaging the workpiece, ensuring a stable clamping force and exceptional rotational accuracy.



Note: Images are for reference only

PRODUCT FEATURES

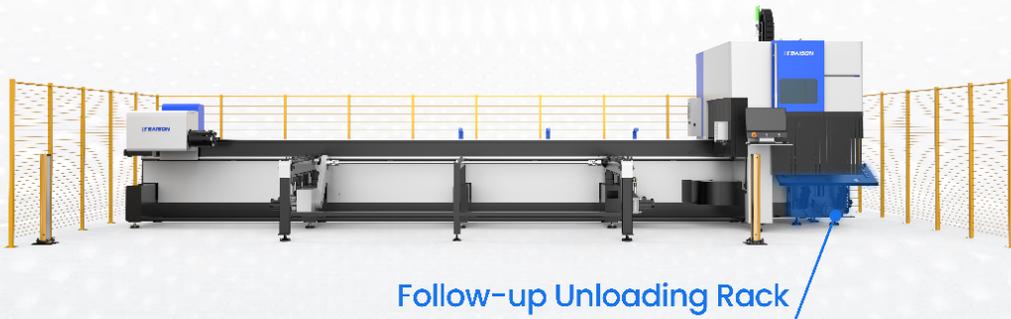
Semi automatic loading system

Standard semi-automatic loading is more secure, convenient, reliable, stable and efficient. Greatly improve production efficiency and save labor costs.



Follow-up Unloading Rack

Standard equipped with a follow-up unloading rack, it effectively prevents sagging and swinging of cut workpieces, ensuring cutting precision.



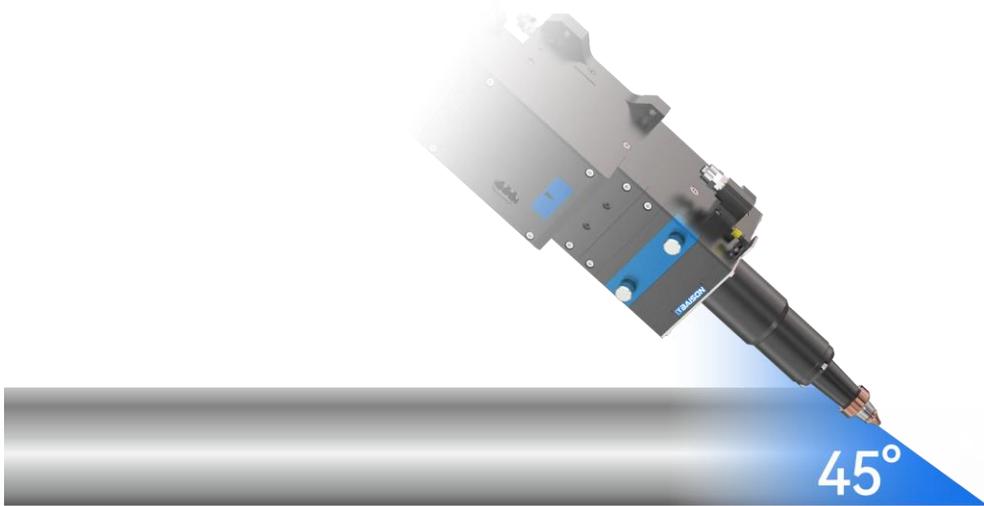
Note: Images are for reference only

PRODUCT FEATURES

Excellent bevel cuts (*Optional)

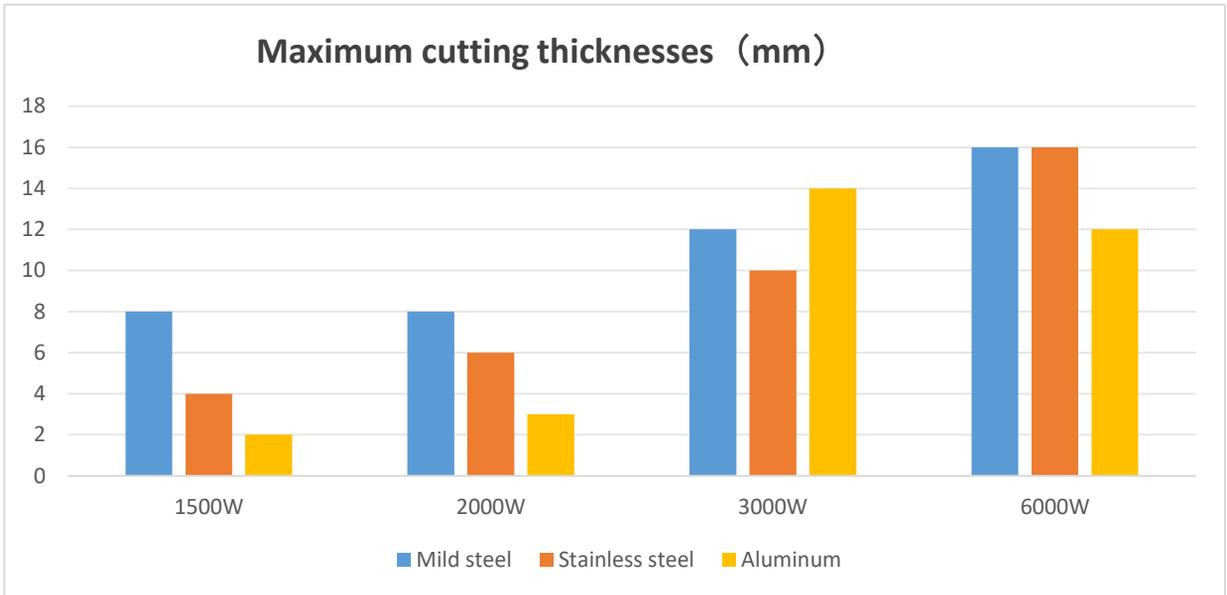
Optional bevel cutting capability can be equipped with bevel cuts from -45° to $+45^\circ$. Depending on the part geometry, simple V- and X-seams can be cut, as well as more complex V- or K-seams.

▼ Excellent bevel cuts (*Optional)



Note: Images are for reference only

PROCESSING CAPABILITY



Note: Maximum thicknesses of the materials to be processed. The values that are achieved depend on the quality of the material being processed, the quality of the cutting gases, the quality of the service and the NC program and the condition of the wearing parts



TECHNICAL DATA

MACHINE MODEL	G24C
Machine Weight	4596kg(Including Semi-automatic loading system and automatic unloading system)
Machine Size*	10151*3362*2400mm
Max.Single Tube Weight	300kg
Max.Tube Cutting Length	6500mm
Ultra-short Tail Material	≥90mm
Power Data	24.8kw/59A
X-axis	350mm
Y-axis	6500mm
Z-axis	500mm
Positioning Accuracy (X/Y)	±0.03mm/m
Repeated Positioning Accuracy (X/Y)	±0.03mm
Max Speed	100m/min
Max. chuck speed	140r/min
Max Acceleration	1.0G

Note: Approximate values. The exact parameters are specified in the machine's installation plan.

CONFIGURATION LIST

MACHINE MODEL	G24C
Control System	FSCUT3000DE-G
Servo Motor	VEICHI
Reducer	TECHMECH
Gear	JT
Guide rail	SHAC
Water chiller	HANLI
Laser source	RAYCUS
Laser head	RAYTOOLS BM110
Proportional Valve	SMC
Machine Bed Accessories	BAISON

Note: this standard configuration is recommended by our company, custom per customer request is available.

MAIN CONFIGURATION

Laser source



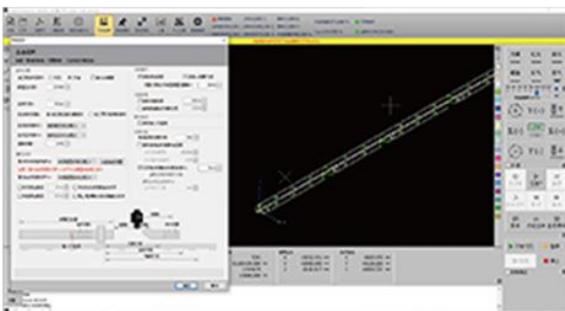
- High Efficiency: Raycus lasers offer 30%-40% electro-optical conversion efficiency, significantly reducing energy consumption and operational costs.
- Superior Beam Quality: The single-mode fiber design ensures high beam density, delivering precise and efficient cutting, especially for thin and complex materials.
- Reliable Stability: With modular design and in-house key components, Raycus lasers are highly stable, capable of long-term continuous operation in harsh environments.
- Long Lifespan: Core components are designed for 100,000+ working hours, reducing maintenance frequency and overall cost of ownership.

Cutting head

- Excellent design: Optimized optical configuration and smooth, efficient airflow design significantly improve cutting quality and efficiency.
- Exquisite structure: Extremely lightweight and compact, reducing the load requirements of the machine tool, and enhancing cutting speed and quality.
- High cost-performance ratio: Easy to use, combined with a height sensor to make cutting more efficient, offering an extremely high cost-performance ratio.



Control System



- Error Determination: Find out main axis servo gain difference by comparing command path and feedback path, so as to ensure accuracy of motion and part.
- Special Shaped Beam Centering: Support L/U/H beam centering, improve cutting efficiency.
- Square/rectangle profile offset: Compensate for regular error, reduce precision demand of tube and hence to save material.
- Single-faced centering: Improve precision of hole-to-edge distance.

MAIN CONFIGURATION



Reducer

- Stable operation
- Low noise
- Large output torque
- High speed ratio



Servo Motor

- Low noise and vibration levels
- Rapid heat dissipation with a more even temperature distribution
- High reliability and stability
- Compact in size and lightweight



Guide

- High precision
- Low Noise
- Good wear resistance
- Automatic centering capability
- High interchangeability



Water chiller

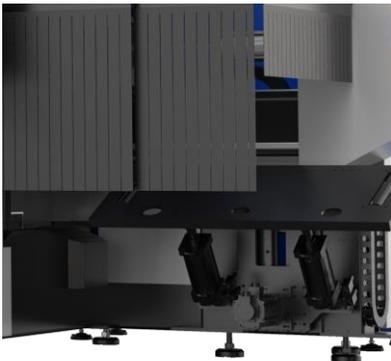
- Dual cooling function
- Real-time alarm
- Machine protection

MAIN CONFIGURATION

Semi-automatic Loading Frames



- The semi-automatic loading frame is controlled by running the automatic loading program, facilitating the automatic feeding of materials. The process is simplified to the extent that merely placing the tubes on the loading platform is required, effectively resolving challenges associated with manual loading, such as difficulty, low safety margins, and reduced efficiency.



Automatic Unloading Frames



- The automatic support and unloading system ensures more stable and safer material unloading. In conjunction with a set of follow-up unloading racks, it is capable of automatically unloading workpieces up to 1.5 meters in length, thereby reducing safety issues associated with manual unloading and enhancing the efficiency of tube material handling. Good wear resistance

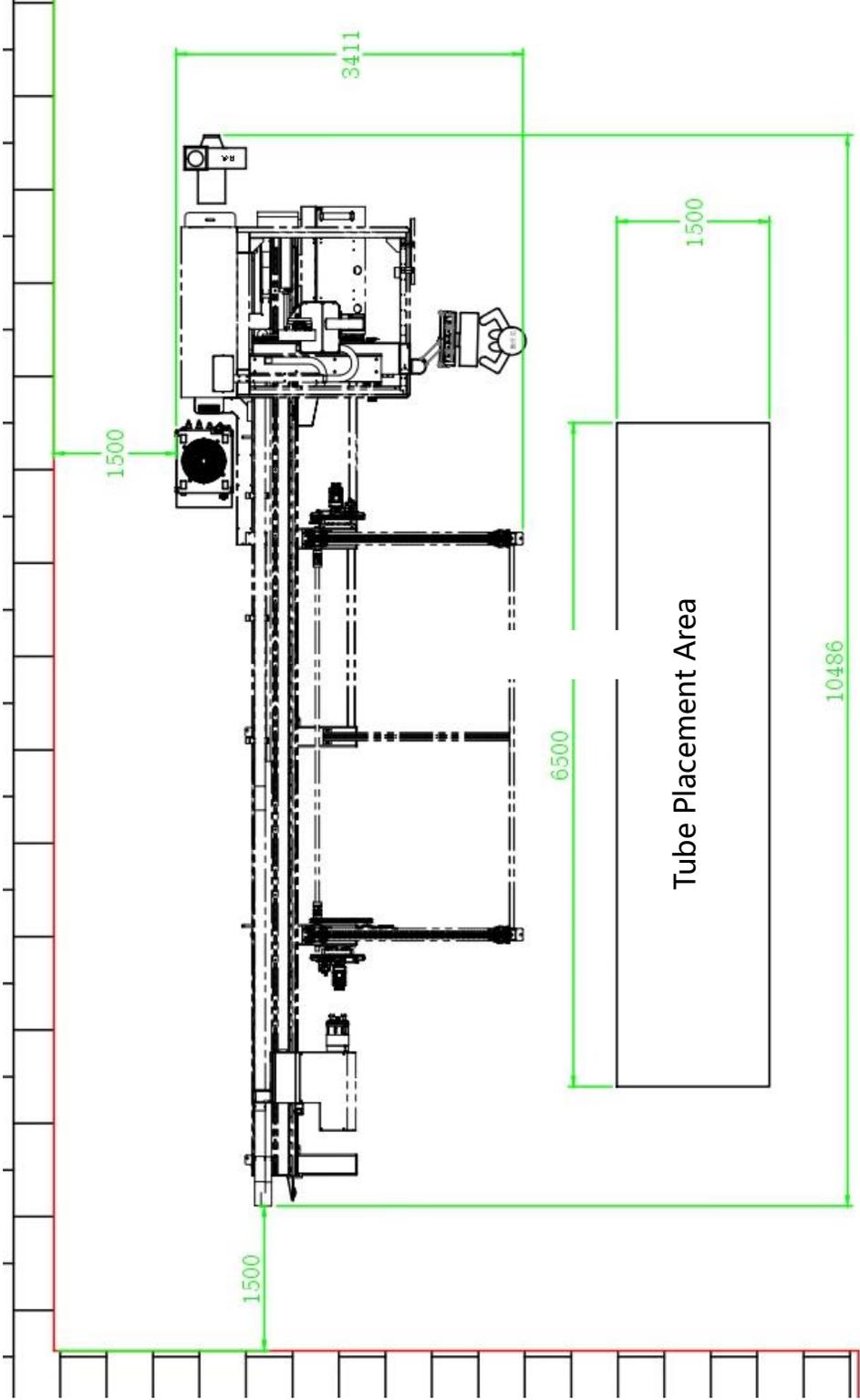
COST ANALYSIS

Items		Air	Oxygen	Nitrogen
Peak Power Consumption (KW)	Laser	9	9	9
	Water Cooling	3.8	3.8	3.8
	Air Compressor	15	/	/
	Machine Main Frame	25.25	25.25	25.25
	Dust Removal Equipment	3	3	3
Total Power(KW)		56.05	41.05	41.05
Typical Power Consumption(KW) (*75% Total power)		42.04	30.79	30.79
Power Consumption Cost(0.15USD/kwh)		6.31	4.62	4.62
Consumable Parts (USD/h)		0.07	0.07	0.07
Gas Consumption(USD/h)		0	2.5	6
Total Operating Cost(USD/h)		6.38	7.19	10.69

Note:

1. The above data is for reference only. Electricity and gas prices vary by country and region.
2. The consumption of assist gas will vary depending on the material and thickness being cut.
3. If the cutting assist gas is compressed air that has been dried, the cost includes the actual electricity consumption of the air compressor, machine power, and consumables.
4. Consumables for the laser cutting machine include all optical lenses, sensors, ceramic rings, cutting nozzles, and all sealing rings.

DIMENSIONS





About BAISON LASER

Founded in 2004, Foshan Huibaisheng Laser Technology Co., Ltd. (BAISON LASER) is a global provider of intelligent metal forming solutions, specializing in the research, development, production, and sales of high-power laser cutting, welding, and cleaning equipment.

4 Branches



Branch **Guangzhou**



Branch **Jinan**



Branch **Changzhou**



Branch **Italy**

COMPANY STRENGTH

Baison Laser is rooted in the production and **manufacturing of intelligent laser processing equipment** and has established a nearly 100,000 square meter laser industrial park in Foshan, Guangdong, covering sheet metal processing, screen printing and spraying, turning, milling, planing, washing, precision machining, whole machine assembly, and process debugging workshops.

It owns the largest super-heavy gantry milling machine and full-temperature CNC high-temperature annealing furnace processing base in the Chinese market.

Baison has formed an integrated vertical full-industry chain layout of **“new machine research and development - machine frame manufacturing - beam manufacturing - sheet metal forming - whole machine assembly,”** establishing a fully traceable professional laser equipment production service quality control system. Through production program control and detection automation, it ensures full-process quality control in the production of laser processing equipment, achieving closed-loop control throughout the production process. It guarantees independent production from every piece of sheet metal to the whole machine, with strict self-inspection and mutual inspection procedures at every step, solid materials, and continuous refinement, winning by “quality.”

Whole Industry Chain Layout

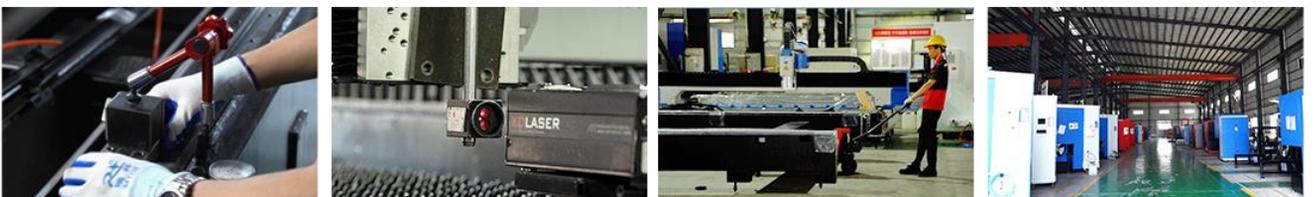
Machine frame manufacturing



Beam manufacturing & Sheet Metal Forming



Machine Assembly



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Av. Juan B. Justo 7251
X5019HVG Córdoba
Argentina

Phone: **0351 450 0160**
Email: ventas@cotear.com.ar
Website: www.cotear.com.ar