HEMSA GROUP

FLK LASER

CUTTING | BENDING | WELDING | CLEANING | CLADDING | MACHINING | AUTOMATION

A GLOBAL PROVIDER OF ONE-STOP METAL FABRICATION SOLUTIONS

www.flkusa.com

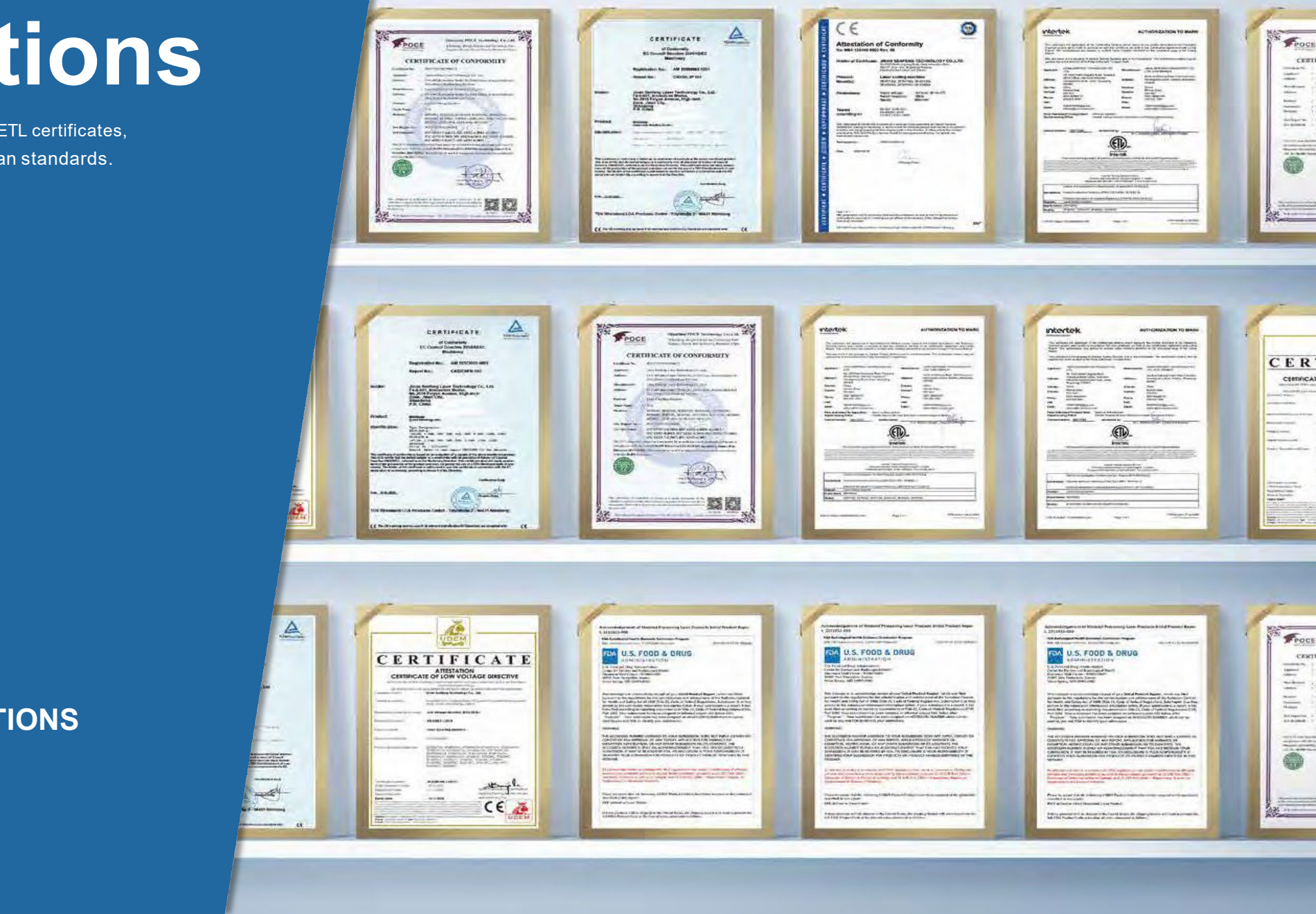
sales@flkusa.com

FEILKE is an international metal forming automation company. *Feilike* (*FLK Laser*) is designed to provide customers with high-quality, fully automatic solutions globally. It has become a technology-driven innovation enterprise by independently developing many core technologies in the laser industry and combining laser cutting, bending, welding, cladding and automation into one product to greatly improve production efficiency for customers with multiple automatic equipment requirements.

Certifications

We have passed CE from TÜV , ROHS, FDA, ETL certificates, which is in line with European and American standards.

+570 PATENT CERTIFICATIONS



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LASER CUTTING

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Some of our Laser Cutting machines:

Heavy-duty Tube Laser Cutting Machine FLK9035ST

Beveling Tube Laser Cutting Machine FLK6035GT

Large H-shaped Steel Laser Cutting Production Line FLK1500CH

Medium-power Economical Laser Cutting Machine FLK3015N

Affordable Sheet & Tube Laser Cutting Machine FLK3015C

Space Saving Fiber Laser Cutter FLK3015H

Fiber laser for cutting sheet and tube. Laser power ranging from 1.5kW to 50kW, high-speed and high-accuracy cutting.

Some Benefits for our machines:

- ◆CNC system special for H-shaped steel
- ◆Self-developed laser cutting head
- ◆Intelligent laser generator
- ◆Segmented heavy-duty machine tool
- ◆Special gantry steel-made beam
- ◆Dual stations for loading and unloading
- ◆2-year warranty period
- ◆24/7/365 technical Support
- ◆Intelligent CNC system with 21.5-inch display screen
- ◆Autofocus laser cutting head
- ◆Precision pipe-welding machine tool
- ◆High-strength AL alloy beam

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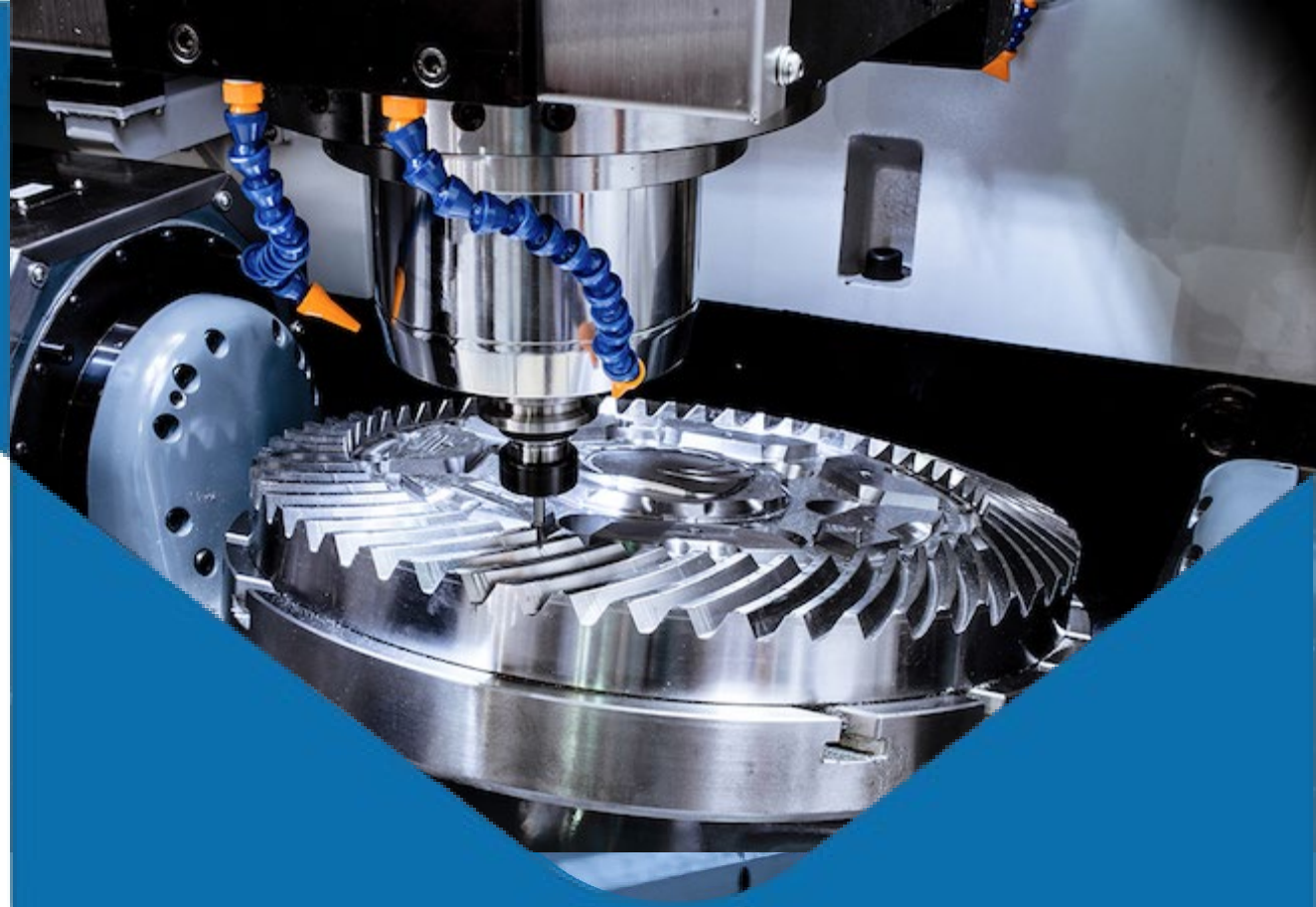
CNC MACHINING



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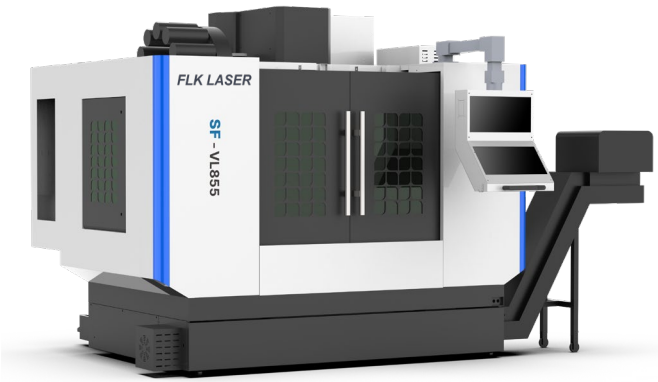
Some of our CNC Milling machines:

High Precision CNC Roll Lathe

Model: FLK-LYCK8463
Maximum rotary diameter of workpiece on the bed: Ø630mm
Maximum workpiece turning length: 3000mm

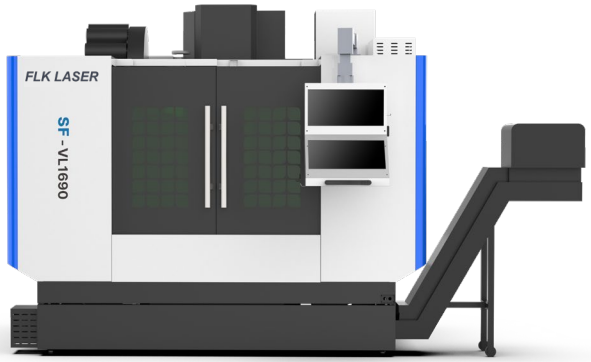
Vertical Machining Center

Model: FLK-VL855
Working area: 800*550*550mm
Maximum load: 500KG



Vertical Machining Center

Model: FLK-VL1690
Working area: 4200×3262×3672mm
Maximum load: 1500KG



Suitable for plane / curved surfaces and various groove processes

Optional vertical or gantry milling machine

- The overall protection design of the machine tool is safe and easy to operate.
- Fast and efficient automatic chip removal.
- High positioning accuracy and low loss.
- The manufacturing process of the bed is mature to ensure its stability and precision.

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LASER CLADDING

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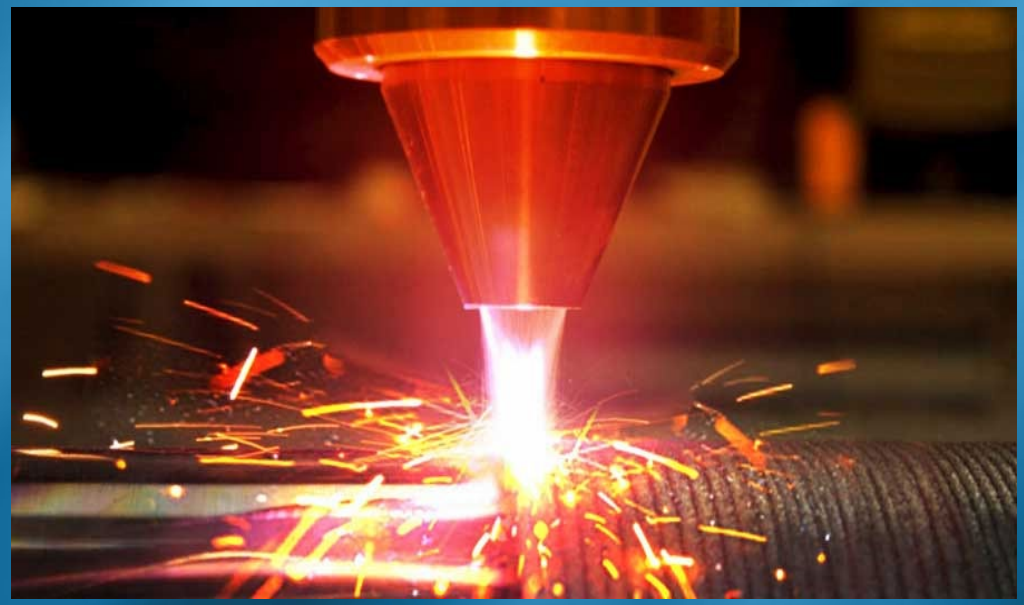
Laser Cladding

Cladding is a process of layering one material over another to provide added protection, insulation, or aesthetic appeal. It is commonly used in architecture and construction to improve the appearance and performance of buildings. Cladding materials can include wood, metal, vinyl, brick, stone, and composite materials.

Some benefits of cladding include:

- **Protection**: Cladding adds an extra layer of protection to the underlying structure, shielding it from natural elements such as weather, UV rays, and corrosion.
- **Insulation**: Cladding can contribute to the thermal performance of a building, helping to regulate internal temperatures and reduce energy costs.
- **Aesthetic** enhancement: It can enhance the appearance of a building, adding texture, color, and visual interest.
- **Durability**: Cladding materials are often chosen for their resilience, providing long-lasting protection and reducing maintenance requirements.
- **Versatility**: Cladding offers a wide range of design options, allowing for customization and creativity in architectural projects.



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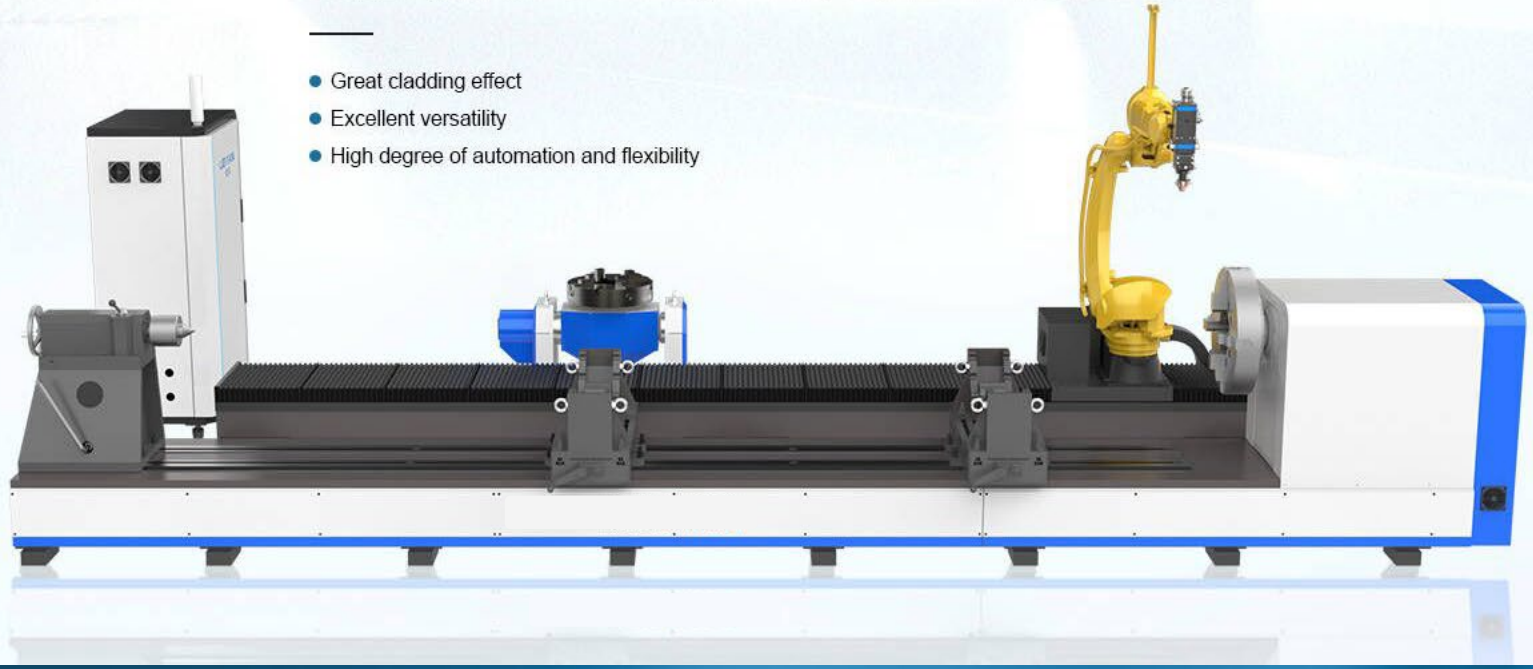
Laser Cladding Robot Workstation

Enhancing metal surface for higher wear, corrosion & heat resistance

- Great cladding effect
- Excellent versatility
- High degree of automation and flexibility



Power: 6 kW

Length: 3m/6m/9m/12m

Rotation diameter: 1200mm/1500mm

Max capacity: 3t/10t/ 15t

Cladding thickness: 0.1-1.5mm

Robot: FANUC M-10iD/M-20iD

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FLK 3050

Ultra-high Speed Laser Cladding Machine

Full cover protection for CE/FDA

Ultra high speed cladding

Cost-effective powder composition

Integration into CNC operation and CAD-based processes

Power: 6 kW

Length: 3m

Max rotation diameter: 800mm

Max Capacity: 3t

Cladding Thickness: 0.1-1.5mm

Rotation rate: 200R/Min

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Ultra-high speed laser cladding machine

Power: 6 kW

Length: 3m

Max rotation diameter: 800mm

Max Capacity: 3t

Cladding Thickness: 0.1-1.5mm

Rotation rate: 200R/Min

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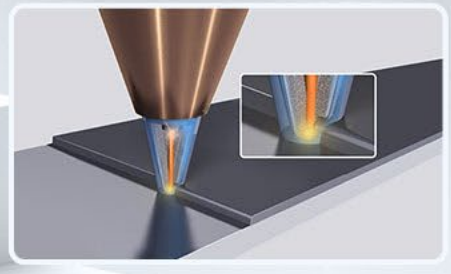
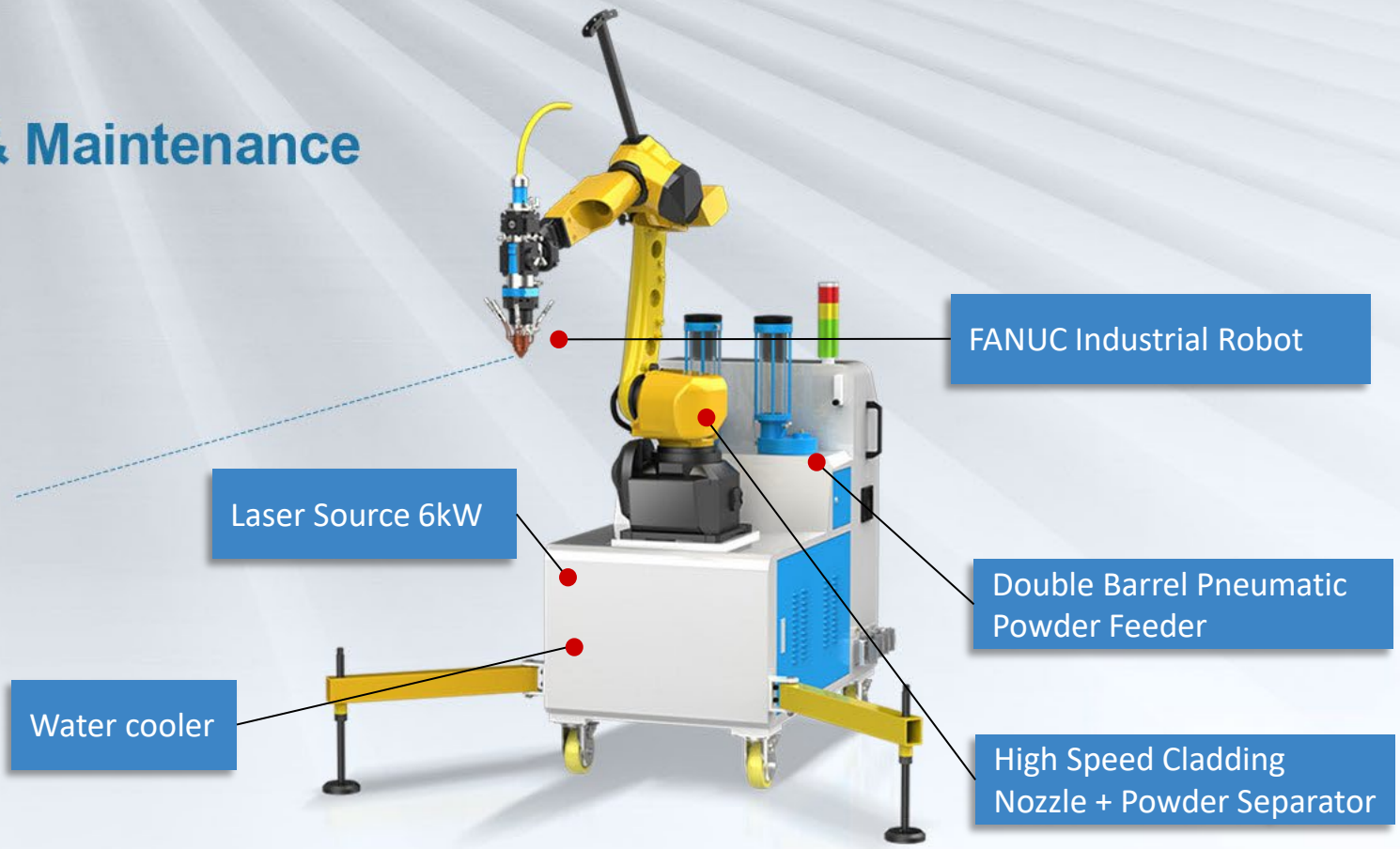
On-Site Repair & Maintenance

Compact size

Convenient transportation

Easy operation





Power: 6 kW

Robot arm range: 1441mm/1831mm

Cladding Thickness: 0.1-1.5mm

Robot: FANUC M-10iD/M-20iD

Cladding characteristics: restoration/wear-resisting/corrosion-resisting/etc.

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BENDING

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BENDING

The bending process is an indispensable part of the metal forming process, as its function is to press the sheet metal into different shapes of parts according to technological requirements and needs. The bending process will directly affect the final size and appearance of the product and have a far-reaching impact on the entire process of the final product.

FEILIKE Bending Division has independently developed multiple bending technologies, with intelligent and flexible bending center, automatic bending unit and CNC bending machine as the product matrix. The products have a wide range of model numbers and configurations, and feature higher bending efficiency, stable product precision and batch production, providing customers with customized metal forming system solutions.

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Our BDE series CNC bending machine has led the industry through innovation in research and development, combined with leading bending technology and years of bending experience of many products, which has enabled us to achieve high-level customization.

Focusing on improving bending efficiency and accuracy, equipped with heavy-duty machine tools, deflection compensation system, tailstock system, numerical control operating system and other modules, with high precision, high stability, high efficiency, high power and high safety performance advantages, it is the best choice to improve production capacity and achieve optimal batch processing.

CNC press brake

Model: BDE-10032
Material: Stainless Steel / Mild Steel / Galvanized / Aluminum Plate
Bending Thickness: 2mm / 3.5mm / 5mm
Bending Force: 1000KN
Engine Power: 7.5KW
Throat Depth: 400mm (Customizable)

The machine can simultaneously take control of two press brakes of the same specifications for synchronous operation. Working in conjunction with a tandem or multi-machine synchronization device, it is suitable for bending long or ultra-long sheets, with an amazing 1+1>2 effect.

It has been applied to bend light poles, electric poles, urban construction automotive structures and highways.

These two machines can work together or independently as needed.

CNC tandem press brake for ultra long sheets

Bending Force: 500-20000KN
Bending Length: 1500*2-15000*2mm

Benefits:
- Fast bending
- Easy to bend ultra-long parts
- High bending precision
- Process and measurement automation

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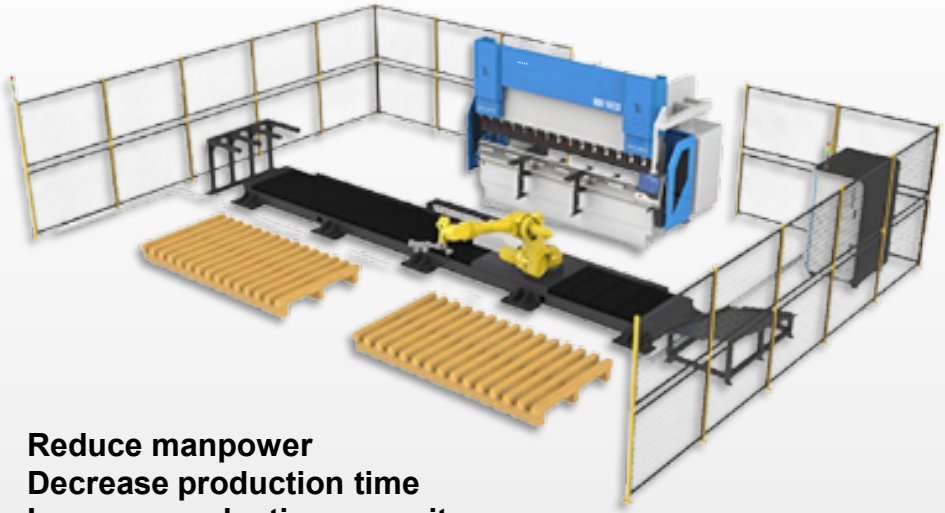
The all-electric press brake is a bending machine that uses a motor to drive the slide block on the workbench to move up and down, so as to bend metal sheets into shape. It features **compact structure, easy operation, high bending precision and efficiency.**

Fully electric press brake

Complete CNC bending system assisted by robot BDE 13032



- **Reduce manpower**
- **Decrease production time**
- **Improve production capacity**

Bending force: 400 KN

Bending length: 1600 mm

Max. bending speed: 30 mm/s

Opening height: 480 mm

Benefits:

- Fast folding and energy saving
- Low maintenance costs
- Eco-friendly and pollution-free
- Easy to operate

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Panel Bending Machines

Panel bending machine with automatic tool changer

2500 [mm] Maximum bending length
1250 [mm] Maximum bending width
200 [mm] Maximum bending height
0.2 [S/bend] Maximum bending speed

Panel bending machine with pressure arm

3200 [mm] Maximum bending length
1250 [mm] Maximum bending width
200/300 [mm] Maximum bending height
0.2 [S/bend] Maximum bending speed

CNC suction panel bending machine

1500 [mm] Max bending length 1250 [mm] Max bending width 170 [mm] Max bending height 0.2 [S/bend] Max bending speed

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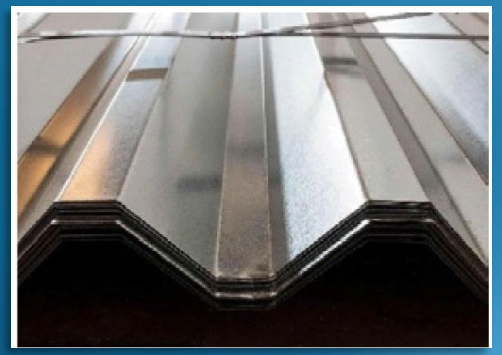
Materials for bending

CNC bending machines can be used to bend stainless steel, carbon steel, galvanized sheets, zinc and fluorine plates, copper and aluminum.

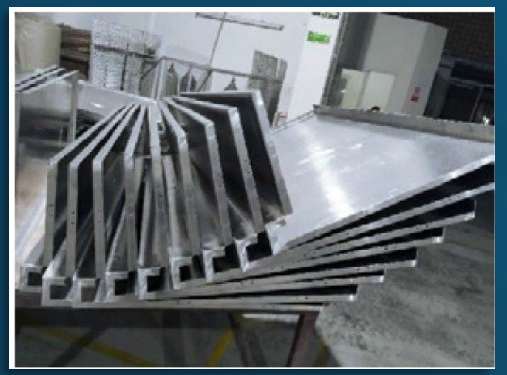
Examples:

Bending of sheet metal cabinets

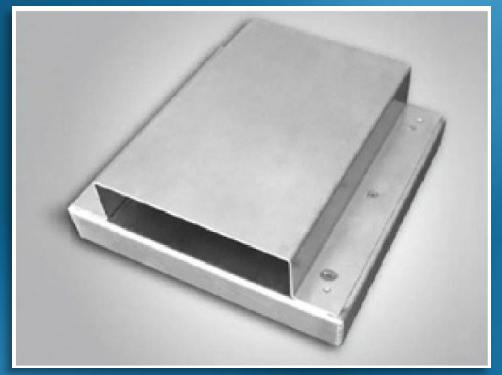


Stainless steel

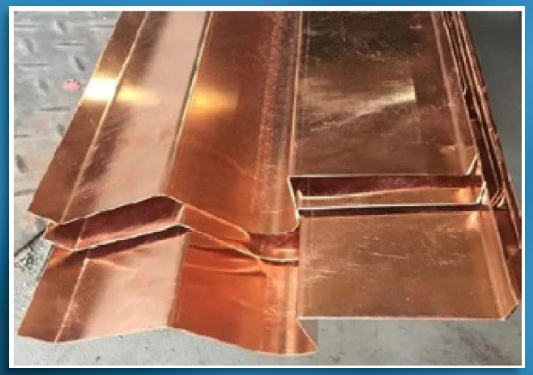
Cold sheet bending



Zinc aluminum fluorine sheet



Bending of aluminum plates



Bending of brass plates

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LASER WELDING

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Laser Welding

Laser welding offers extreme precision and exact thermal control, resulting in exceptionally clean, high-quality joints.

Key benefits of laser welding include:

Accuracy: Laser welding allows for high accuracy in joining materials, which is especially useful in the manufacturing of precision components.

Speed: This welding method is fast and efficient, which can result in increased productivity and reduced manufacturing time.

Thermal control: Laser welding provides precise control of the heat-affected zone, minimizing the risk of thermal damage to surrounding materials.

Versatility: Laser welding can be used for a wide range of materials, including metals, plastics, and ceramics.

Hard-to-reach welding: Due to its directional and precise nature, laser welding is ideal for making joints in hard-to-reach areas or on complex-shaped components.

Non-contact welding: Laser welding requires no physical contact between the heat source and the material, reducing the chance of contamination or tool wear.

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HC Series Portable Laser Welding Machine

Advantages:

Fiber laser welding machines can **minimize heat input, reduce the metallographic range of the heat-affected zone, and minimize deformation caused by heat conduction.**

The laser can be focused on a small area to weld small and closely spaced parts.

A wide range of weldable materials and various heterogeneous materials can also be joined together.

The machine is suitable for **high-speed welding by automation** and can also be **controlled digitally or by computer**.

When welding a thick plate or fine-diameter wire, there is not the same melting problem as arc welding.

Not affected by magnetic fields (arc welding and electron beam welding are easily affected), allowing for precise targeting of welds.

Model:	SF4S	SF5S
Energy:	1.2kw	1.5kw
Weld thickness:	≤4mm	≤5mm
Size (w X h X d):	698mm X 440mm X 810mm	

All models are customizable to the client's color and aesthetic preferences.

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Fiber laser welding is a welding technology used to join various metal components and allows for **fine, deep, and high-speed welding**.

FLK's portable fiber laser welding machine can be used to weld metal plates, metal tubes, and more.

Portable laser welding machine

Advantages:

High efficiency: 2 to 10 times more efficient than other welding methods.

High quality: Smooth welding seam, no subsequent grinding.

Reduce costs: Allows saving at least 2 welders 80% to 90% energy savings

Operation flexibility: Flexible 360° movement and no prior experience required to perform optimal work.

Multifunction: 6 welding methods with or without wire, can also perform cuts of thin steels.

Multiple languages: Support available in English, Spanish, Chinese, Japanese, among others.

Model:	FLK LWP	**Cooling method:**	Water cooling
Laser power:	1.5kw / 2kw / 3kw	**Laser wavelength:**	1080nm
Welding gap:	≤1/5 of the sheet thickness	**Welding speed:**	0-120mm/s
Fiber length:	Standard 10m	**Electromechanical:**	380V / 50Hz 220V opcional

Welding range:

- Carbon steel 0.5 ~ 4 mm
- Stainless steel 0.5 ~ 4 mm
- Aluminum 0.5 ~ 3

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Portable robotic laser welding machine

Advantages:

Quick changes in automatic and portable operation: Manual welding and robot welding can be quickly switched through customized fixtures and switching control system, one machine for two uses.

Various welding methods: According to the welding requirements of the workpiece, welding can be by heat conduction, deep penetration and wire filling.

Welding at various angles: According to the welding positions of the workpiece, welding can be achieved at various angles within the processing range through the robot wire anti-binding mechanism, and the maximum coverage of the robot is 1730mm.

Automatic welding of various large-scale workpieces: Welding parameters can be fully managed and automated by the robot welding software. The welding procedure can be determined based on the type of workpiece.

Welding head

Handheld, adjustable dagger welding head

Model:	FLK LWRP
Laser power:	1.5kw / 2kw
Robot:	CRP-RH18-20
Weld thickness:	0.5-4 mm

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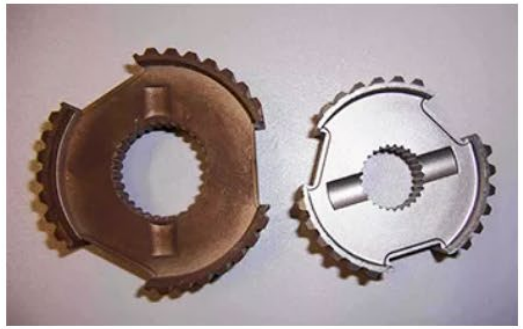
LASER CLEANING

Applications

Fiber laser cleaning machine is used for laser paint removal, laser degreasing, laser oxide layer removal, laser cleaning screw, laser dust removal, laser welding cleaning.

Applied in shipbuilding industry, auto parts, rubber molds, high-end machine tools, tire molds, tracks, environmental protection industry and other industries.



Rust removal

Cleaning metal parts

Corroded material cleaning

Paint Removal

Cleaning of car parts

Rubber mold cleaning

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Fiber laser cleaning machine is a new high-tech machine for surface cleaning. It is easy to install and operate. It can work without chemical reagent, media dust and water.

Laser cleaning offers multiple advantages over traditional approaches. It involves no solvents and there is no abrasive material to be handled and removed.

Compared to other processes, laser cleaning is **controllable and can be applied only to specific areas of a part, can be easily automated to maximize productivity**, and provides the guaranteed repeatability demanded by a growing number of quality standards.

Advantages

- Portable
- High cleaning efficiency and good effect:
- Easy to place anywhere.
- Safe and environmentally friendly.
- Low operating cost and requires little maintenance.
- Non-contact cleaning
- Does not damage the base of the piece.
- Friendly machine control system

HC Series Portable Pulsed Laser Cleaning Machine

FLK1500 HC portable laser cleaning machine

Model:	SF200HC/SF300HC/SF500HC
Maximum pulse energy:	10mj/12.5mj/25mj
Fiber length:	10/15m
Cleaning width:	80 mm

- **Equipped with manual cleaning head.**
- **The portable structure is light and ergonomic.**
- **The computer control system is easy to use, concise, and a variety of parameters can be set by yourself.**

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Robot laser cleaning machine is a new high-tech product for surface cleaning. Less waste, easy operation and maintenance, just need to turn on and open the equipment.

The 6-axis multifunctional robot features a high-strength arm and top-level servo technology can effectively improve the speed and acceleration performance. It will reduce more than 15% of the operation time, achieving the highest production capacity in the industry.

The 3D robotic welding machine is used in manufacturing, metallurgy, automotive, electronics, biomedicine, home appliance manufacturing, processing tools, IT manufacturing, food machinery, diamond tools, welding, soldering equipment, metal material surface treatment, etc.

FLK1500 HCR portable laser cleaning machine

Model:	SF1500HCR/SF2000HCR/SF3000HCR
Energy:	1.5KW-3KW
Cleaning efficiency:	5m³ / h
Scan width:	10-80mm

Benefits:
1) High welding precision and quality;
2) The production efficiency is high, the working environment is improved, and the product cycle is controllable;
3) The utility model has the advantages of low energy consumption, low cost, and simple and convenient maintenance.

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AUTOMATION

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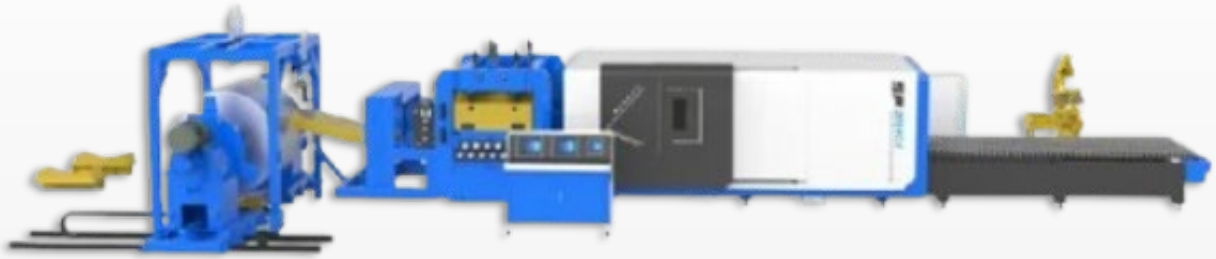
Some of our automation capabilities:

2-year warranty period
24/7/365 technical support

Coil Fed Laser Cutting Machine



- **Max Decoil Thickness: 0.55”**
- **Max Coiled Material Weight: 66000 lbs**
- **Laser Power: 1KW-20KW**

Coil Fed Fiber Laser Cutting Machine

- **Maximum coil weight: 22000 lbs**
- **Feeding Speed: 0-10M/MIN**
- **Safety and Environmental Protection**

Open-style Thin Sheet Coil Fed Laser Cutting Machine

- **1 hydraulic feeding trolley (8T)**
- **1 automatic decoiler (8T)**
- **11-roller leveling and laser cutting machine**
- **1 set of receiving device**
- **1 set of water chiller**

FLK LASER

5-STAR FAST SERVICE SYSTEM

Efficient

24 hours*7 days*365 days
Answer repair calls at any time

Professional

Customized solutions
One to one service

Convenient

Detailed theoretical and practical training
Regular maintenance reminder
Extended warranty

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