

6+3 Laser Sandblasting Equipment

**New concept laser marking &
laser cleaning general equipment**



**No need to design additional project equipment
One machine solve application
difficulty of laser marking and cleaning**

6+3

Autofocus Laser Sandblasting Equipment (Platform Ver.)

0-dead-corner processing for workpieces



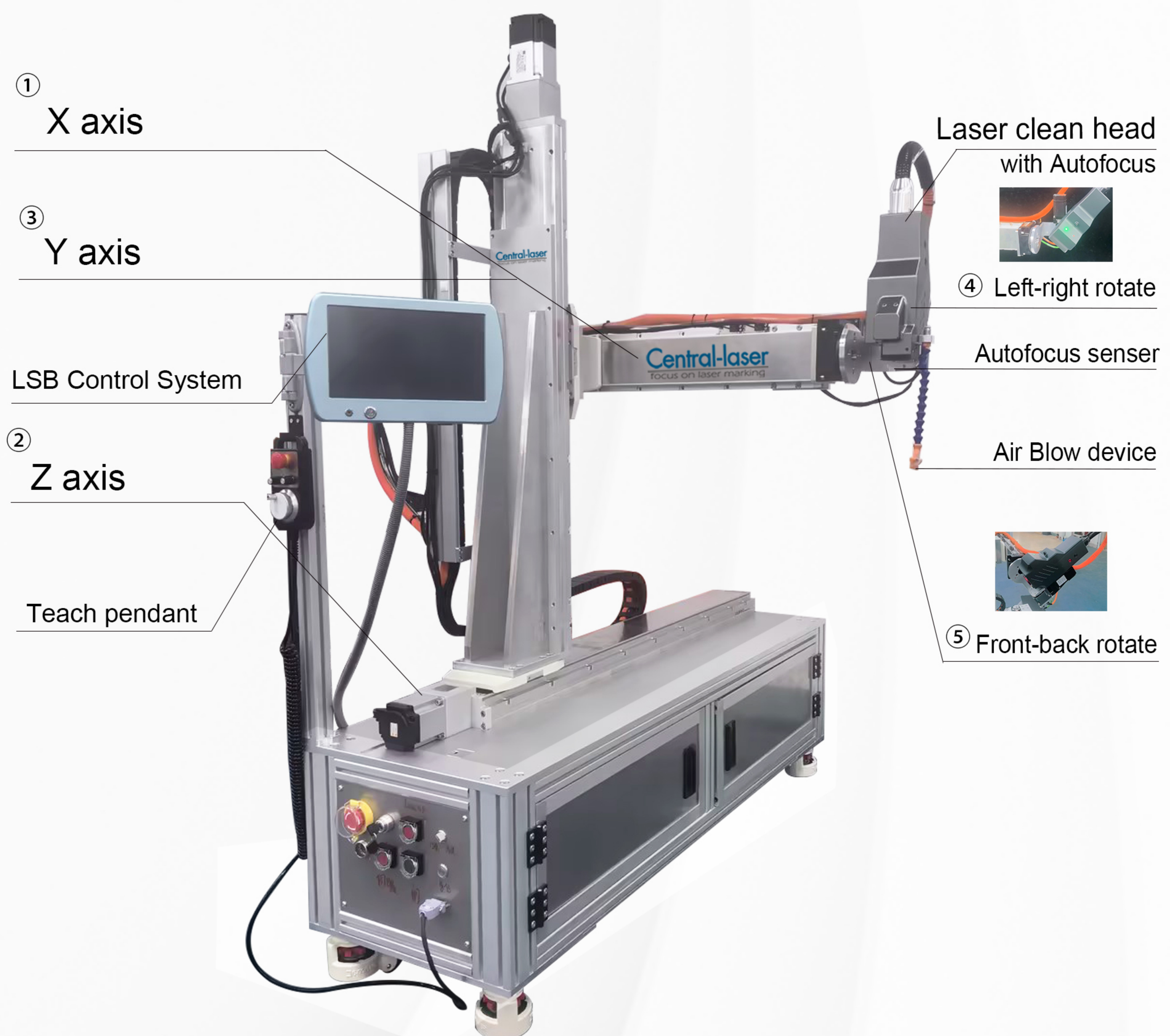
Suitable for mold, small workpiece
Processing range: 520*630*330mm

Focus laser spot at any position on workpiece through
3D laser head and **6 motion axes**

6+3

Autofocus Laser Sandblasting Equipment (Ground Ver.)

0-dead-corner processing for workpieces



Suitable for large workpieces

Processing range: 1120*930*1150mm

**Focus laser spot at any position on workpiece through
3D laser head and 5 motion axes**

6+3

Autofocus Laser Sandblasting Equipment



Laser Cleaning

- A** Can clean stereoscopic workpieces at any angle
[Play Video](#)
- B** Within autofocus range, don't need adjust focal length to clean
[Play Video](#)
- C** Can perform repeat cleaning on specific area with multiple processes
[Play Video](#)

Laser Marking

- A** Can mark stereoscopic workpieces at any angle
[Play Video](#)
- B** Within autofocus range, don't need adjust focal length to mark
[Play Video](#)
- C** Support marking and engraving of characters, patterns and QR codes
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Laser Cleaning

6+3 Autofocus Laser Sandblasting

Can move laser head to
workpiece's any
position and angle



Play Video



**Can Clean
at any postion**



Unable to clean at any position

With autofocus,can
always maintain laser
focus on workpiece



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**Can Clean on
irregular surface**



Due to the limitation of laser focal
length, unable to clean on work-
piece with multilevel height

6+3 incredible struc-
ture design, can easily
clean workpiece's
every surface



Play Video



**Can Clean
Stereoscopic workpiece**



Unable to clean automatically
Can only manually clean

Can record every processing
path and pram. through
Teaching Demonstration to
repetitive processing
automatically



Play Video



**Can Clean
Automatically**



Can't clean workpiece repetitively
in a fixed processing path

Control 6 axes and 3D
glavo's Z-axis, put laser
focus into blind hole form
different angle to clean



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**Can Clean Blind
hole & Dead corner**



Can only clean manually,
waste time

Laser Marking

6+3 Autofocus Laser Sandblasting

Don't need to find focus through 3D glavo and Autofocus



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Easy Mark



Must find focus accurately

Can control 3D glavo to workpiece's any position and angle



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Mark at
any position



Unable to mark every position

Due to focal length of 3D glavo , can mark on multilevel height at the same time



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Mark on
multilevel height



Unable to mark on multilevel height at the same time

Can engrave in one time, don't need to move laser head



Play Video



Engrave



Unable to engrave

3D laser head, easily break through 2D marking limit. Can cut within 5mm. Cooperate with wobble line, make cutting faster and more even.



Play Video



Cutting



Unable to cut

Operational Advantage

Teaching Demonstration

Don't need 3D model, can perform automatic process

Move laser head and edit the machining path through Teaching Deconstration.
Control teaching pendant or touch screen to simulate machining path.
After editing the path, can directly perform automated process



LSB Control system

Touch Screen

Can edit the machining path and parameter

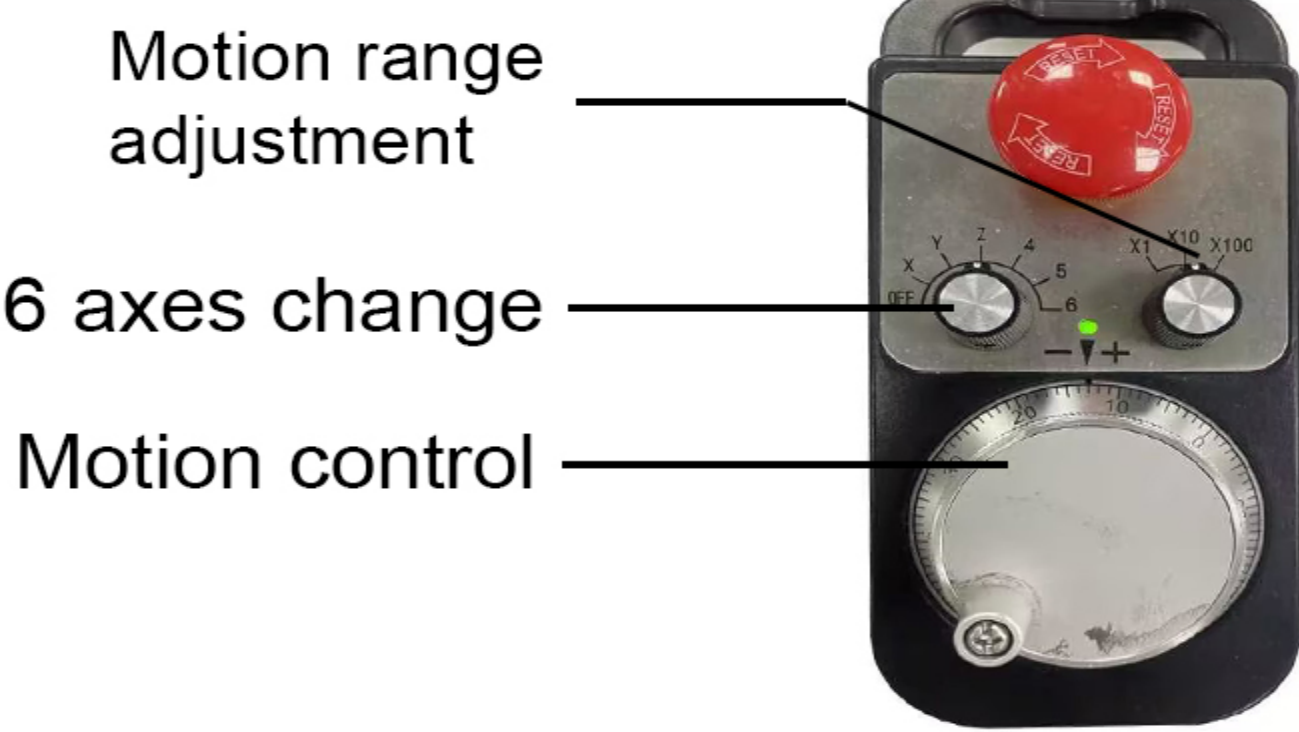


Change to
teach pendant
or control pad

Laser head
1. move with laser off
2.do dynamic process
3.do static process

Teaching pendant

Control 6 axes through teach
pendant to set processing path.
It can adjust motion range for
high accuracy process



6 Motion Axes

Can move laser head to workpiece any position and angle

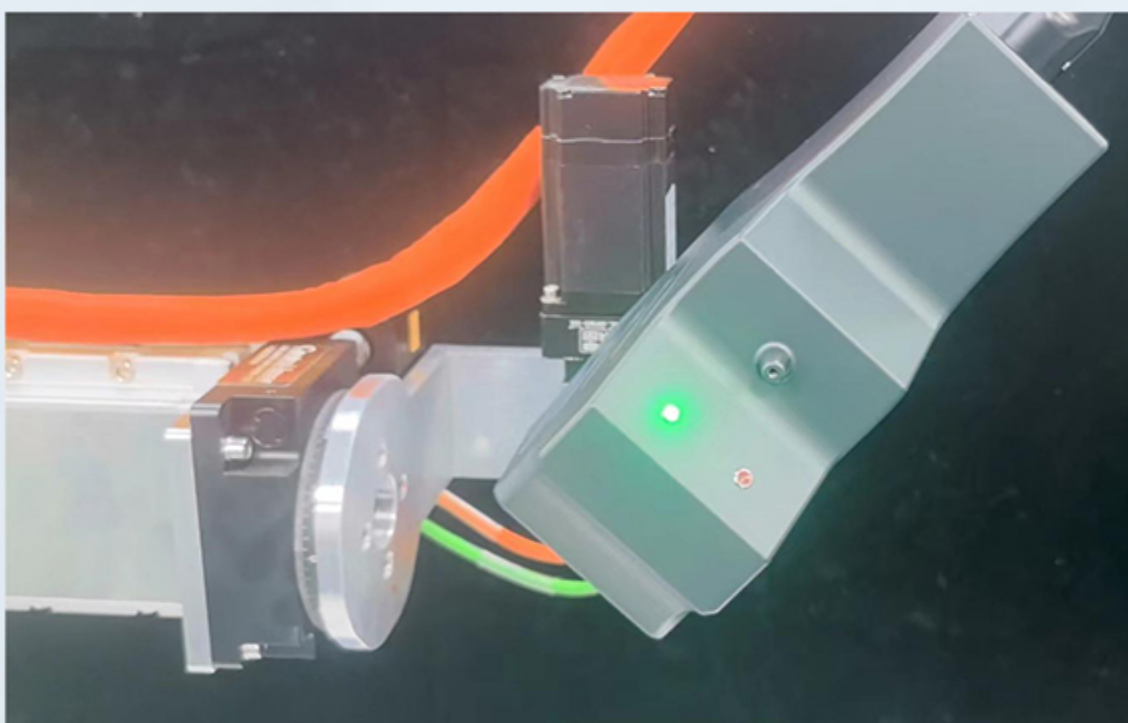
Coperate with Teaching Demonstration, control X, Y, Z axes, glavo
front-back rotate, glavo left-right rotate, rotate disc for workpiece.



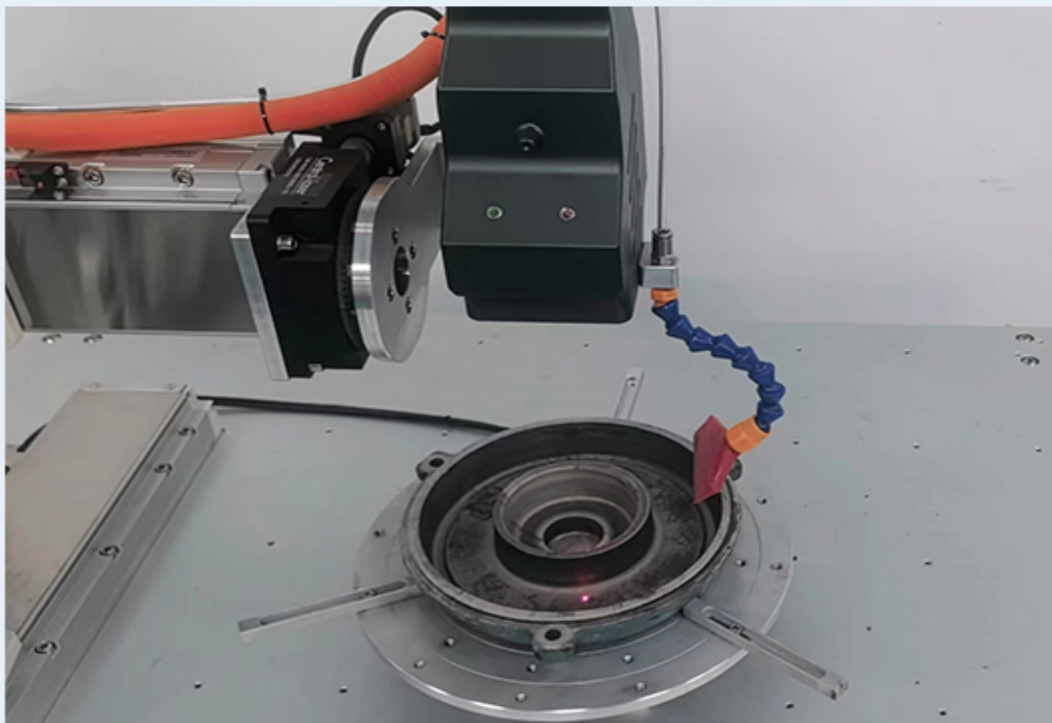
XYZ axes move



Front-back rotate



Left-right rotate



Workpiece rotate disc

High Accuracy Repetitive Process

Control laser marking and cleaning accuracy through motion axes and
laser head Make sure process area won't shifting, accuracy can
up to $\pm 0.01\text{mm}$.



3D Laser Head Autofocus

Within autofocus range

Can maintain laser focus always on workpieces
Don't need to adjust focus



Beyond autofocus range

Move laser head to make the part which
exceeds the autofocus rangeback to the range



Laser Spot Control



Enlarge laser spot, have higher efficiency for rust,oil clean

| | | | |
|---------|---|--|---|
| Spot | | | |
| Effect | | | |
| Feature | The smallest spot, strongest power. Suitable for cutting, engraving, and removing heavy rust | Spot bigger Suitable for paint, rust removal | Biggerst spot Suitable for oil removal |



Process Mode

Static Process

Laser Head & Workpiece fixed to clean/mark

Static Cleaning

1. Specific area clean

Control laser head and motion axes to move to any position and angle

2. Repetitive clean

Set different parameter for each clean and do repetitive clean on specific area

3. Multilevel height clean

3D laser head, can set clean layer for each height directly clean without moving laser head

Static Marking

1. Specific area marking

Control laser head and motion axes to move to any position and angle

2. Engraving

Using 3D laser head focal length, can engrave without moving laser head

3. Multilevel height clean

3D laser head, can set clean layer for each height directly mark without moving laser head

Dynamic process

Laser head/workpiece move while cleaning

1. Normal clean

Can control laser and motion axes around workpiece to clean

3. Automated component clean

Can copy machining path and move to specific area for same path clean

2. Repetitive clean

Can set parameter for each clean to perform repetitive clean

4. Autofocus clean

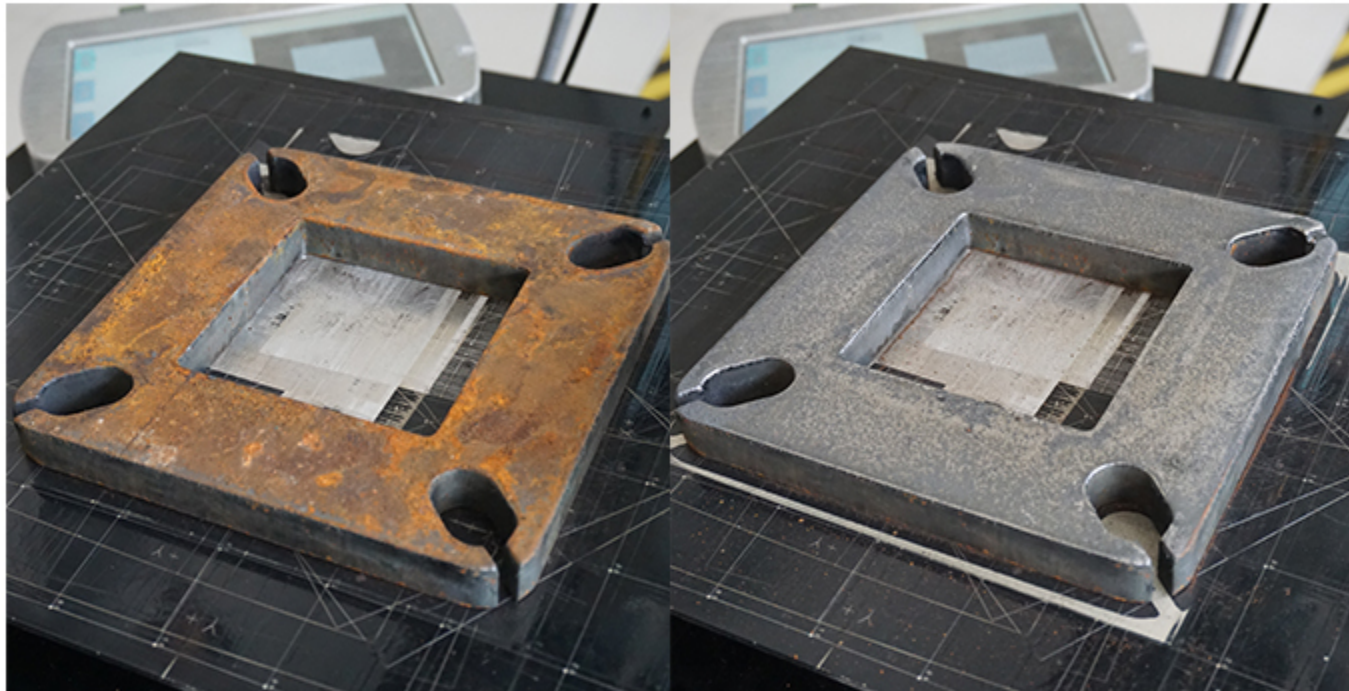
Within autofocus range, can always keep laser focus on the surface of workpiece

Application

Basic function

Laser Cleaning

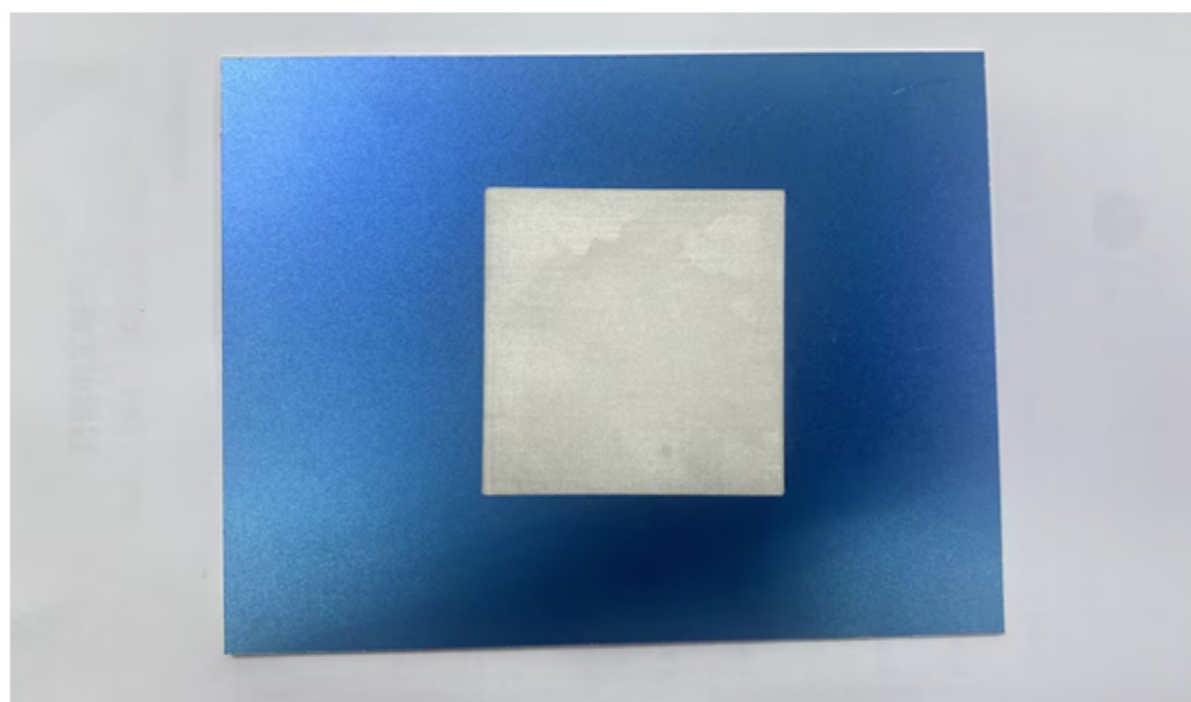
Rust | With autofocus , can keep laser focus on workpiece, easy to remove rust



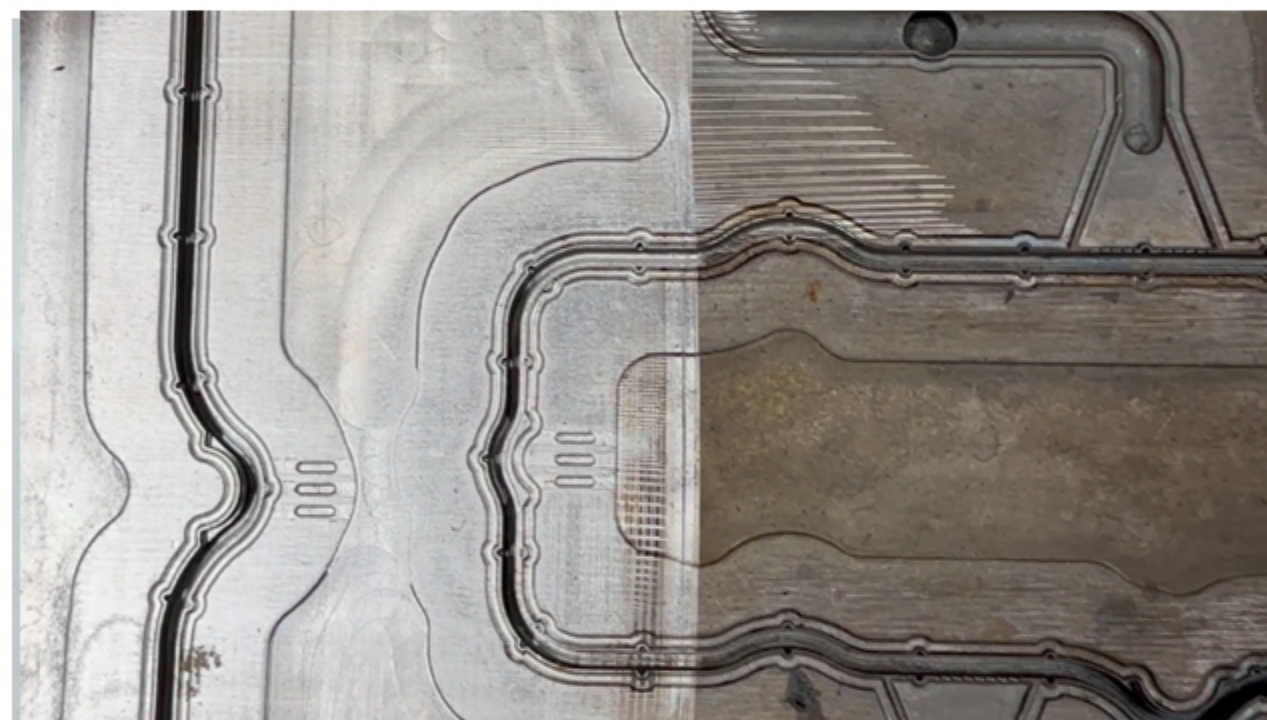
Oil | Enlarge laser spot slightly to remove oil



Paint | Enlarge spot to remove paint

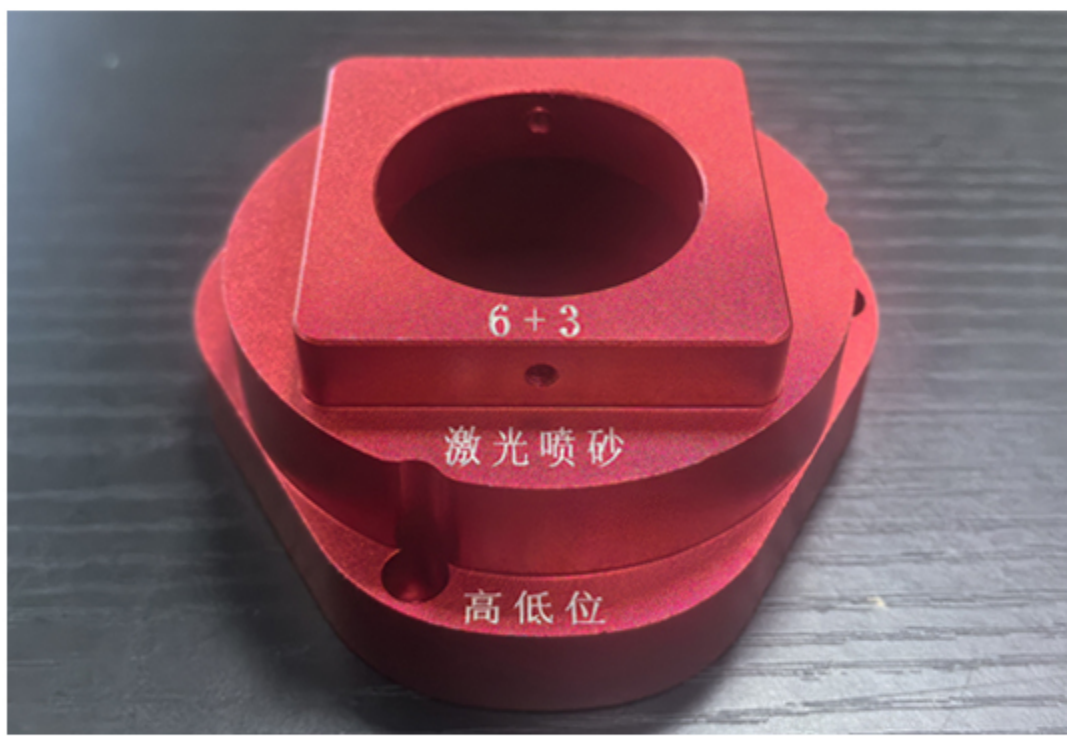


Dirt | Enlarge laser spot to largest size, power will decrease, don't hurt substrate



Laser Marking

Multilevel height | Within focal length range, can mark on multilevel, don't need to move laser head



QR code | Support all kind of codes



Deep-Caving | 3D laser head, don't need to move while deep-caving



Relief | 3D laser head, don't need to move while relieving



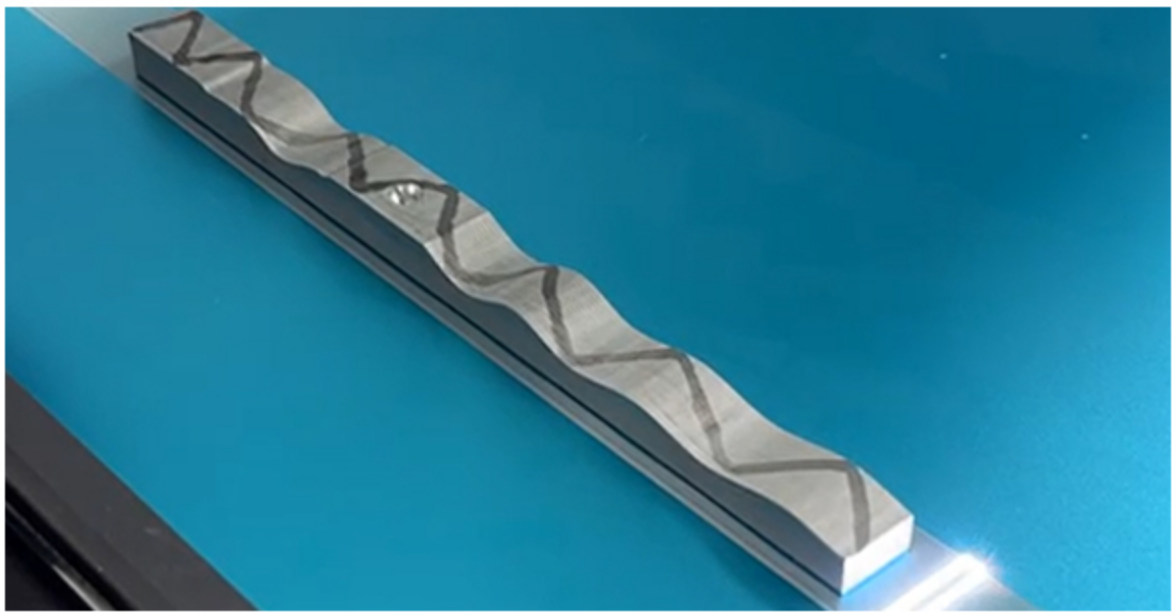
Depth: 3.0mm



Specific Features

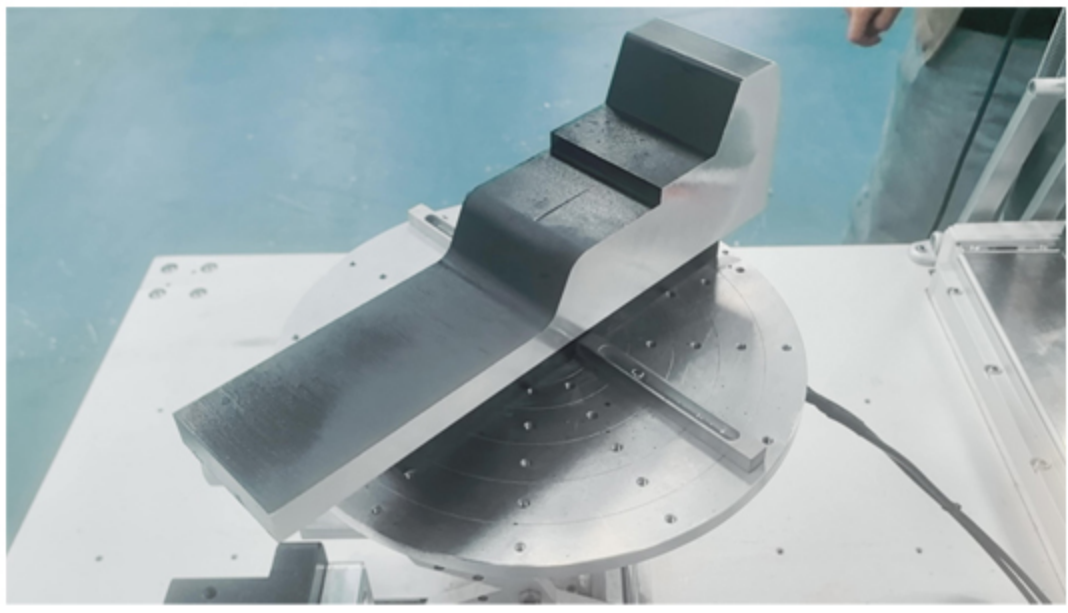
Uneven surface clean

Detect workpiece's height through Autofocus. Automatically change focus to clean



Stereoscopic workpiece clean

Move laser head and motion axes to clean around stereoscopic workpieces



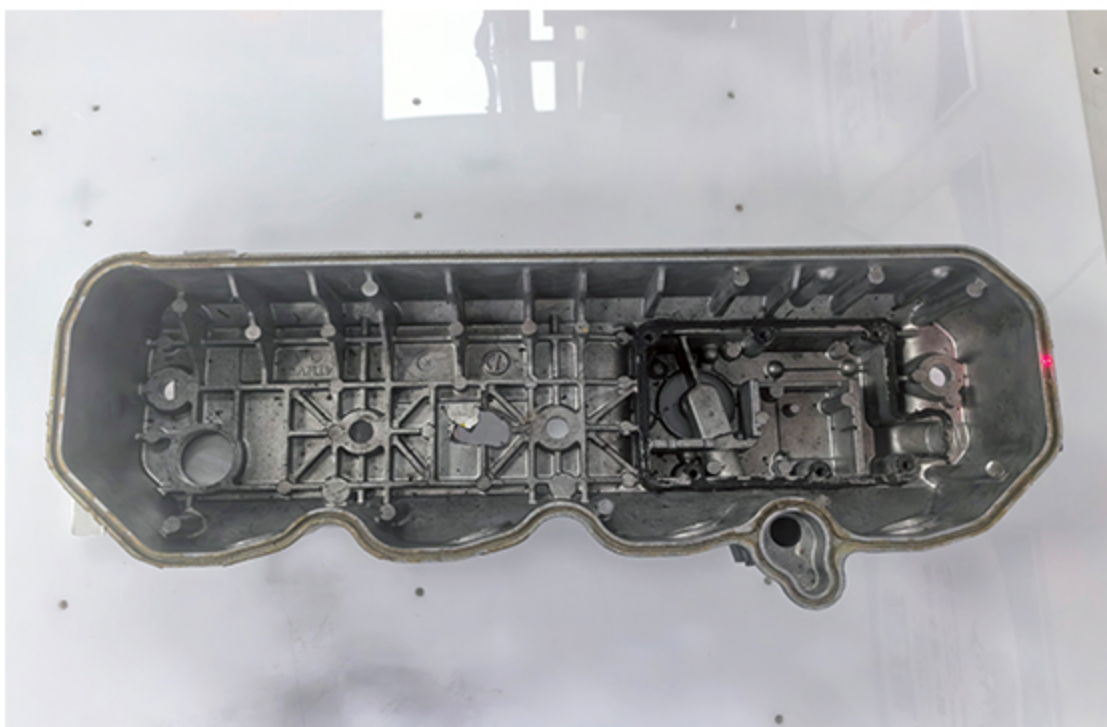
Through-hole clean

Move laser head and motion axes to project laser into the hole to clean automatically



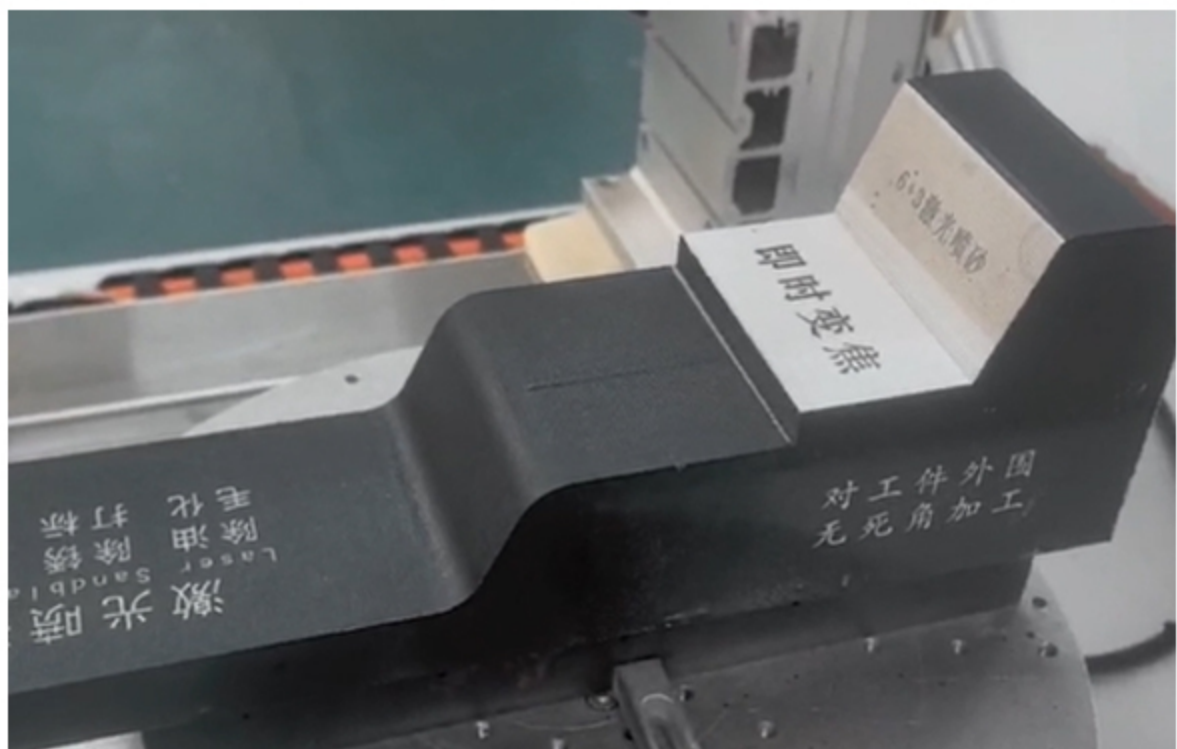
Non-standard workpiece clean

Edit machining path by Teaching Demonstaration and perform automated clean



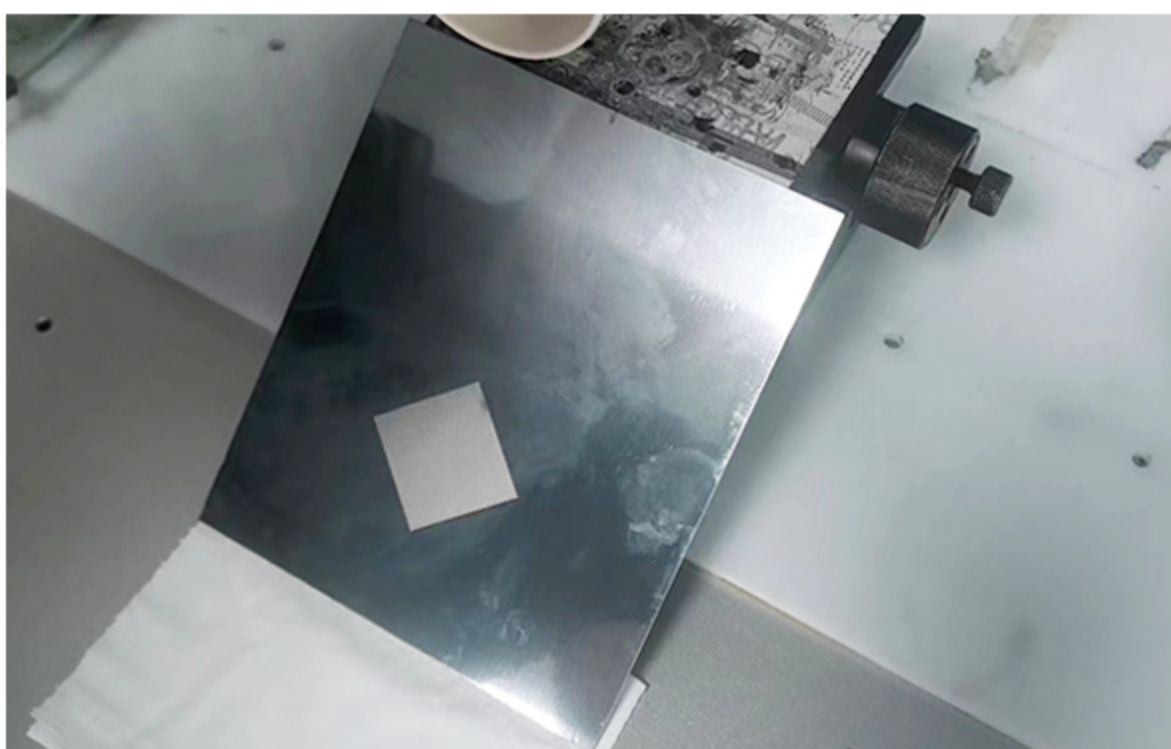
Mark on Any position

Can move laser head and mark at any angle and position



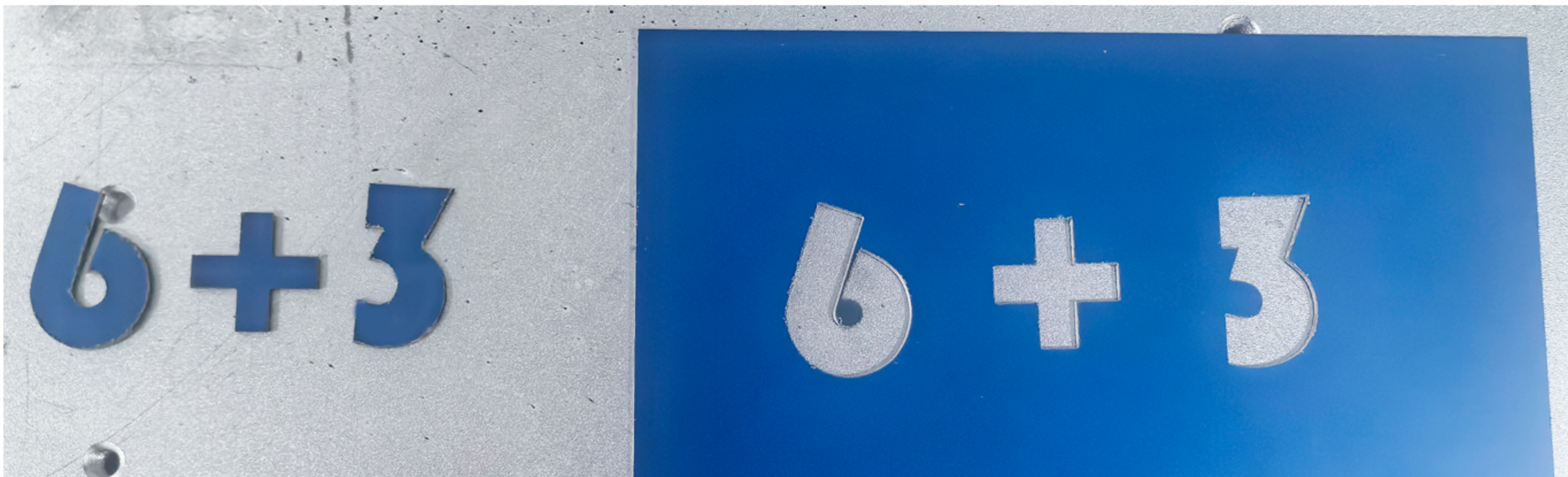
Roughten

Can perform repetitive process to roughen the surface




Wobble Line Cutting

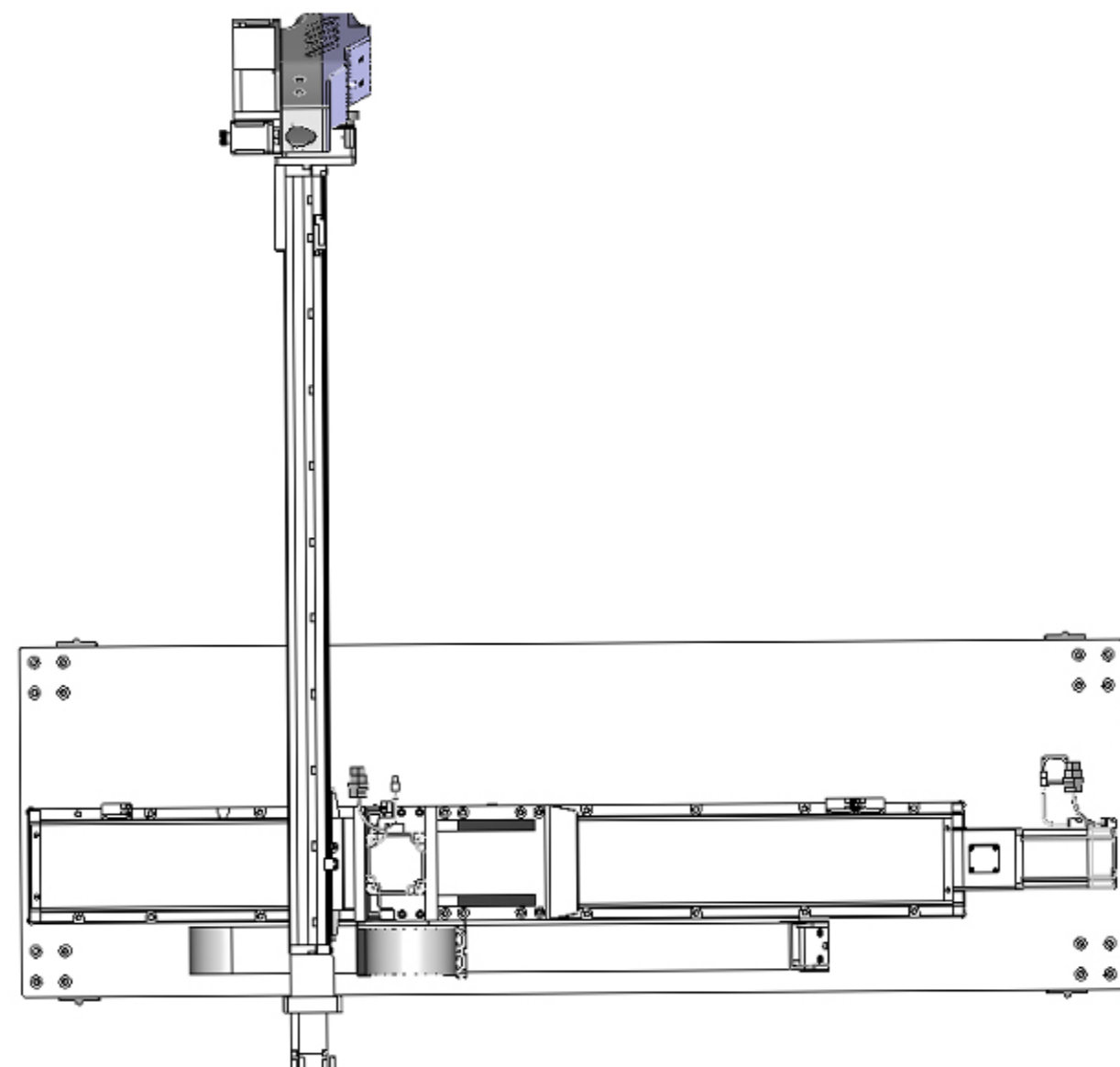
By wobble line cutting, can cut faster, have higher accuracy and more even edge. Can cut 1-5mm



Parameter

6+3 Autofocus Laser Sandblasting Equipment (Platform Ver.)

| Model | | LSB-AN3D-200-40-55-40-RO-140D | | LSB-AN3D-300-40-55-40-RO-140D | |
|----------------------------|-------------------------------|---------------------------------|-----------------|---|--|
| Laser source | Power | 200W mopa | | 300W mopa | |
| | Pulse energy | Single mode 2mj | | | |
| | Wavelength | 1064nm | | | |
| | Frequency/Pulse width | 1-3000KHz / 13-500ns | | | |
| 3D Glavo | Scan speed | ≤14000mm/s | | | |
| | Scan range | 140*140mm | | | |
| | Max. Min. Focal length | Min.: 215mm Max.: 253.5mm | | | |
| | Virable focal length | 38.5mm | | | |
| | Marking position accuracy | ≤0.0176mm | | | |
| User Operation | Control System | LSB Control System | | | |
| | Teach Pendant | Handweel Teach Pendant (6 axes) | | | |
| | Touch Screen | 10.1" | | | |
| Platform (Customizable) | Size(Length,Width,Height) | 1017*997*1687mm | | | |
| | Bearing | 200kg | | | |
| | Motion Range | X axis: 1-400mm | Y axis: 1-550mm | Z axis: 1-400mm | |
| | Max. Process area | 520mm*630mm | | | |
| | Max. process height | 330mm | | | |
| | Glavo left-right rotate angle | Left 39° Right: 39° | | | |
| | Glavo front-back rotate angle | ±100° | | | |
| Rotate disc (optional) | Diameter | 300mm | | | |
| | Height | 70mm | | | |
| | Bearing | 30kg | | | |
| | Rotate angle | 360° | | | |
| Work Demand | Cooling | Air Cooling | Structure |  | |
| | Working Temp. | 0~40℃ | | | |
| | Power Supply | 110~220V, 50/60HZ | | | |
| | Power Consumption | 2500W | | | |

| 6+2 Automatic Laser Sandblasting Equipment (Ground Ver.) | | | | |
|--|---|---------------------------------|-----------------|------------------------|
| Model | | LSB-200-100-80-80-140L | | LSB-300-100-80-80-140L |
| Laser source | Power | 200W mopa | | 300W mopa |
| | Pulse energy | Single mode 2mj | | |
| | Wavelength | 1064nm | | |
| | Frequency/Pulse width | 1-3000KHz / 13-500ns | | |
| 2D Glavo | Scan speed | ≤14000mm/s | | |
| | Scan range | 140*140mm | | |
| | Virable focal length | 248mm | | |
| | Marking position accuracy | ≤0.0176mm | | |
| User Operation | Control System | LSB Control System | | |
| | Teach Pendant | Handweel Teach Pendant (6 axes) | | |
| | Touch Screen | 10.1” | | |
| Axes Table | Size(Length,Width,Height) | 1518*460*1010mm | | |
| | Motion Range | X axis: 1-1000mm | Y axis: 1-800mm | Z axis: 1-800mm |
| | Max. Process area | 1120mm*930mm | | |
| | Max. process height | 1150mm | | |
| | Glavo left-right rotate angle | ±180° | | |
| | Glavo front-back rotate angle | ±160° | | |
| Work Demand | Cooling | Air Cooling | | |
| | Working Temp. | 0~40℃ | | |
| | Power Supply | 110~220V, 50/60HZ | | |
| | Power Consumption | 2500W | | |
| Structure |  | | | |

 **Click to see more details**