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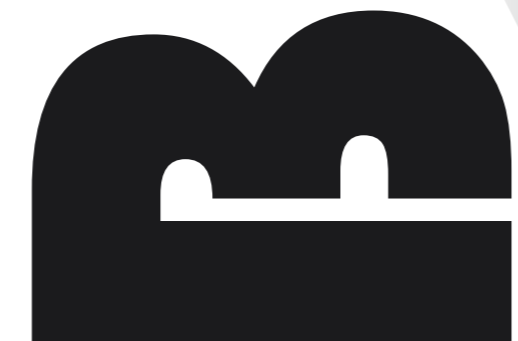
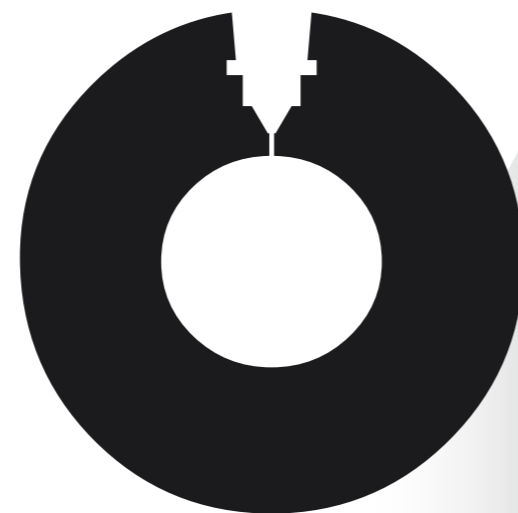
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**BOCI**

Shanghai BOCI Automation Technology Co., Ltd.

A close-up photograph of a laser cutting head in operation. The head is white and red, positioned above a dark metal workpiece. Bright orange and yellow sparks are being ejected from the cutting point, creating a fan-like pattern. The background is dark and out of focus.

**BLT —**  
**Intelligent**   
**Cutting Head Brochure**

# BLT4 Series

## Tube cutting



BLT421T



BLT441T

## Plane/Slant



BLT421



BLT441



BLT461



BLT481

## BLT4 Series Cutting Head Functionalities

Model	Plane/Slant				Tube Cutting	
	BLT421	BLT441	BLT461	BLT481	BLT421T	BLT441T
Power	≤8kw	≤15kw	≤20kw	≤30kw	≤8kw	≤15kw
Closed-loop monitoring	✓	✓	✓	✓	✓	✓
Collimation and focusing	✓	✓	✓	✓	✓	✓
Built-in amplifier	✓	✓	✓	✓	✓	✓
Nozzle cooling	✓	✓	✓	✓		
Amplifier water cooling	✓	✓	✓	✓	✓	✓
Protective lens temperature monitoring	✓	✓	✓	✓	✓	✓
Cutting- gas pressure monitoring	✓	✓	✓	✓	✓	✓
Anti-collision protection	✓	✓	✓	✓	✓	✓
Pan-seal failure detection		✓	✓	✓		✓

# BLT4X1

Plane/Slant

Focusing range:  
±50mm

Focusing speed:  
500mm/s

Repositioning accuracy:  
±0.01mm



## BLT4X1 Features //



## Closed-loop Monitoring

Smarter and Safer //

Built-in multiple sets of sensors, real-time closed-loop intelligent monitoring, rapid diagnosis of problems and proactive warning.

## BLT4X1 Features ///

### Anti-Collision Protection

#### More convenient maintenance ///

The anti-collision design of the cutting head effectively reduces the depot-repair probability, without technical support, customers can replace the broken parts by themselves, and the maintenance cost is lower.

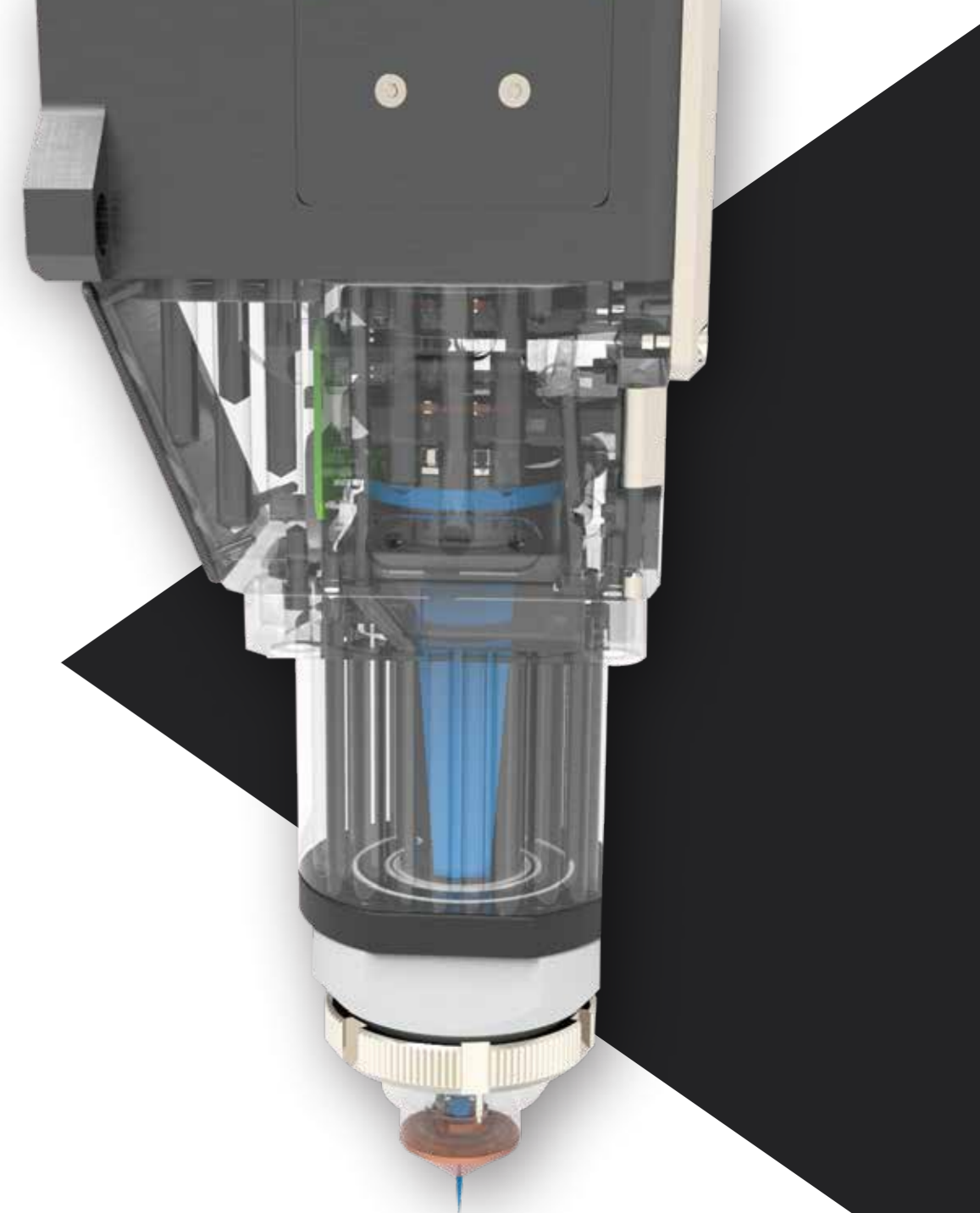


## BLT4X1 Features ///

### Air Pressure Monitoring

#### Improve cutting stability ///

Real-time monitoring of gas flow rate during cutting, effectively reduces the affects of air pressure deficiency/exaggerated on cut surface quality.



## BLT4X1 Features //

### Protective Lens Temperature Monitoring

#### Increase process stability //

Real-time monitoring of the status of the protective lens, warning system can work quickly when the lens are polluted and it can reduce the negative effects of polluted lens on cutting quality.



### Collimation and Focusing

#### Zoom faster //

Reduce waiting time for zooming, more coherent cutting experience makes processing more efficient.



## BLT4X1 Features //



### Water Cooling

#### More stable cutting quality //

Water-cooled design covering 90% of the optical path of the cutting head makes cutting more stable.



### Slant Cutting

#### One-time forming //

With the AB swivel axis, it can support cutting V, Y, X and other types of grooves, with largest of  $\pm 45^\circ$  groove and one-time forming, reducing the slant opening processes, decreasing costs and increasing efficiency.

# BLT4X1T

## Tube cutting

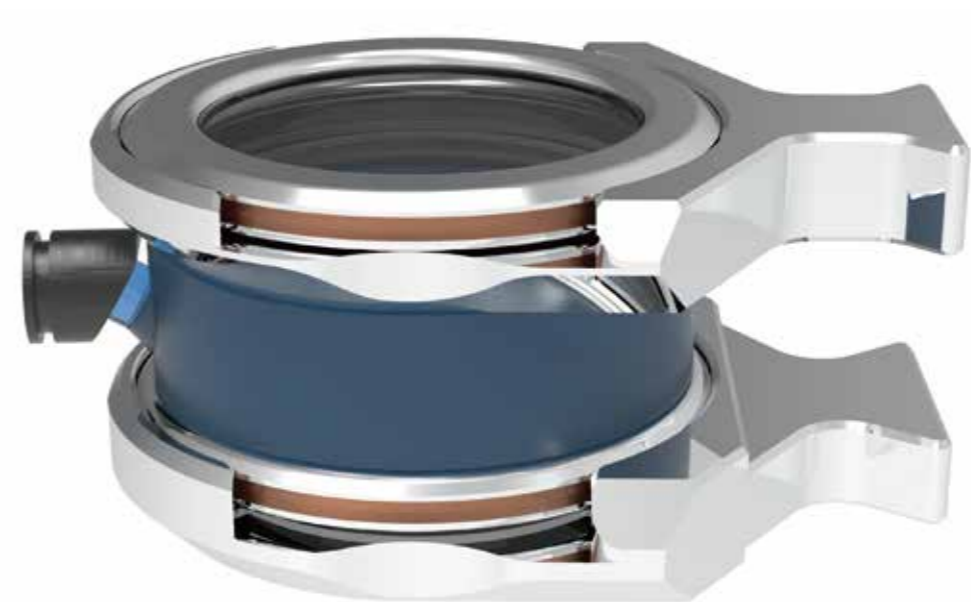
Focusing range:  
±50mm

Focusing speed:  
500mm/s

Repositioning accuracy:  
±0.01mm



## BLT4X1T Features //



## Pan-seal Failure Detection

Extend the service life of protective lens //

Real-time monitoring of the sealing effectiveness of the protected area, prolong the service life of the protective lens and ensure the stable production of customers.

## BLT4X1T Features //

### Anti-collision Protection

#### More Convenient Maintenance //

The anti-collision design of the cutting head effectively reduces the depot-repair probability, without technical support, customers can replace the broken parts by themselves, and the maintenance cost is lower.



## BLT4X1T Features //

### Built-in Amplifier

#### Improve capacitance stability //

Strong anti-interference ability, more stable capacitance.



### 3D Sensor Head

#### Multi-type pipe cutting //

It can realize cutting of different types of pipes: round pipe, square pipe, channel steel, I-beam, etc.



### Dust-proof Front Cover

#### Better sealing

A dust-proof cover is added to the optical lens area to improve the sealing level of the core chamber and extend the core lens life.



### Four Sets of Protective Lens

#### Extra protection to extend core lens life

Establish multiple protective barriers to improve the sealing level of the core chamber.



# Plane



BLT642H



BLT662H



BLT682H



BLT6102H

# BLT6 Series

## BLT6 Series Cutting Head Functionalities

Plane				
Model	BLT642H	BLT662H	BLT682H	BLT6102H
Power	≤15kw	≤20kw	≤30kw	≤40kw
Closed-loop monitoring	√	√	√	√
Cutting- gas pressure monitoring	√	√	√	√
Protective lens temperature monitoring	√	√	√	√
Upper astigmatism detection	√	√	√	√
Middle astigmatism detection	√	√	√	√
Lower astigmatism detection	√	√	√	√
Smart piercing	√	√	√	√
Air/Nitrogen Process Monitoring	√	√	√	√
Anti-explosion detection of protective lens	√	√	√	√
Pan-seal failure detection	√	√	√	√
Co-edge perforation detection	√	√	√	√

# BLT6X2H Plane

Focusing range:  
±50mm

Focusing speed:  
500mm/s

Repositioning accuracy:  
±0.01mm

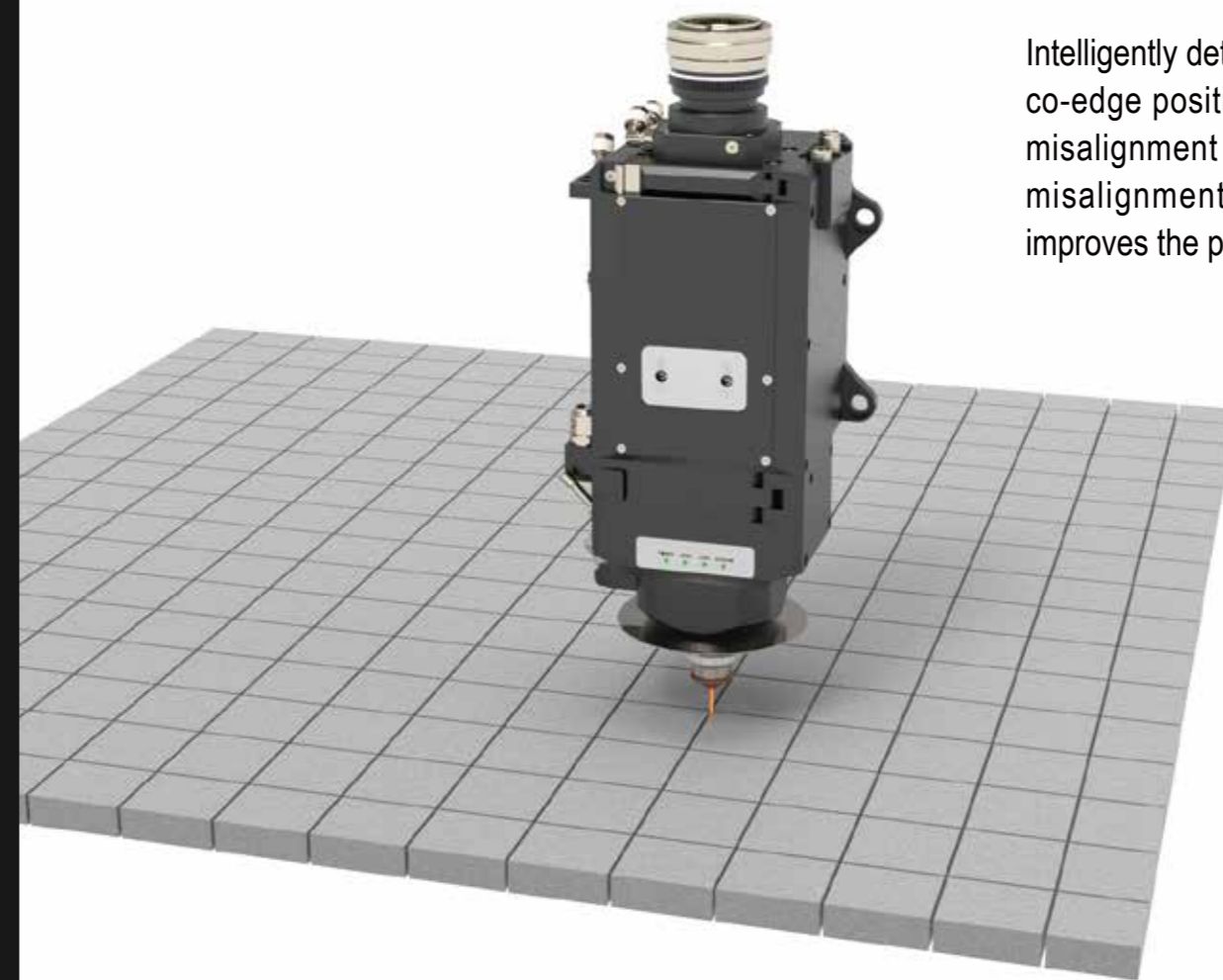


## BLT6X2H Features //

### Co-edge Perforation Detection

#### Improve processing efficiency //

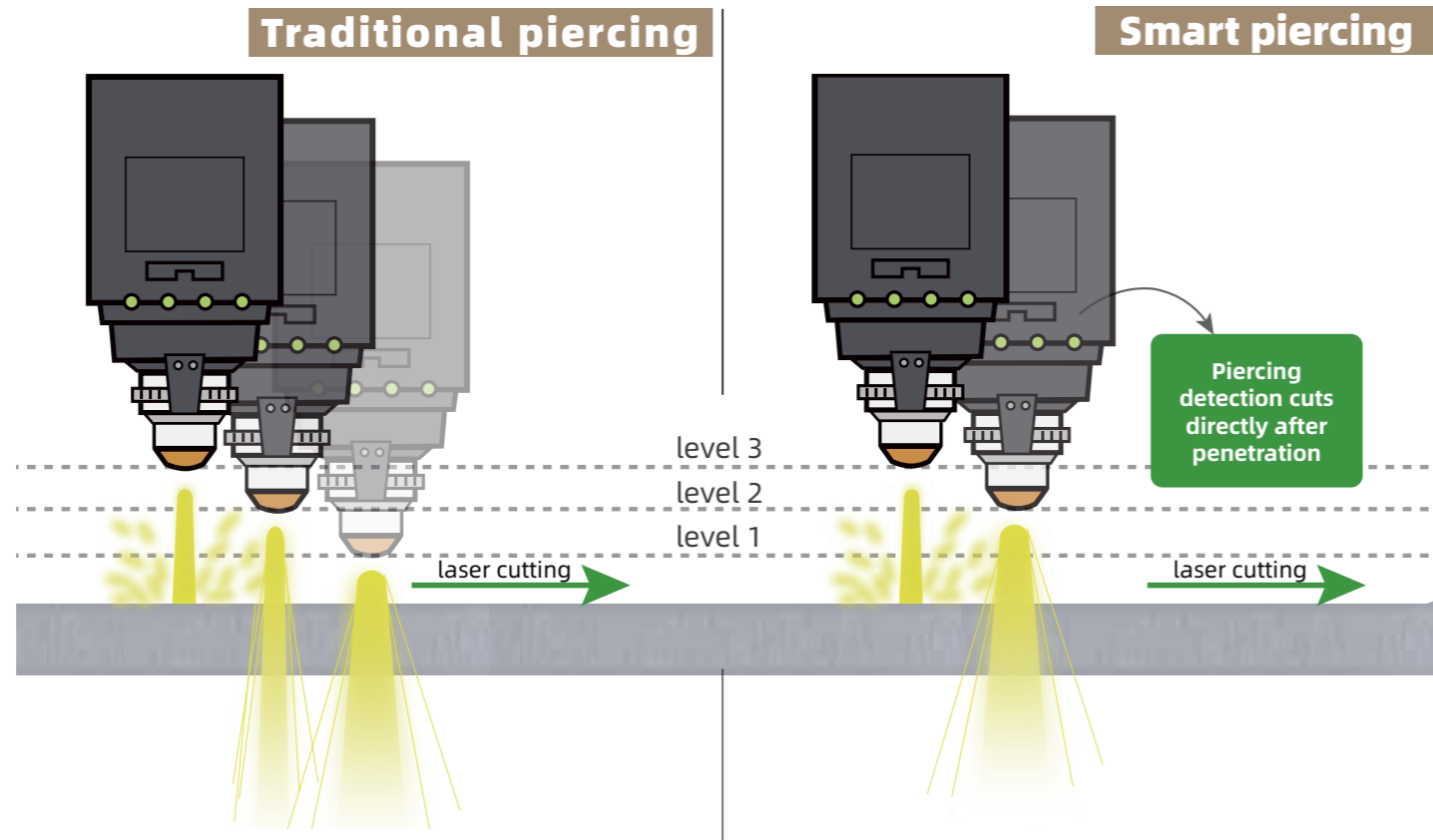
Intelligently detect whether perforation is required at the co-edge position, perforation is performed when the misalignment of the sheet is detected. If there is no misalignment, it will be cut directly, which greatly improves the processing efficiency.



## Smart Piercing

### Improve piercing efficiency

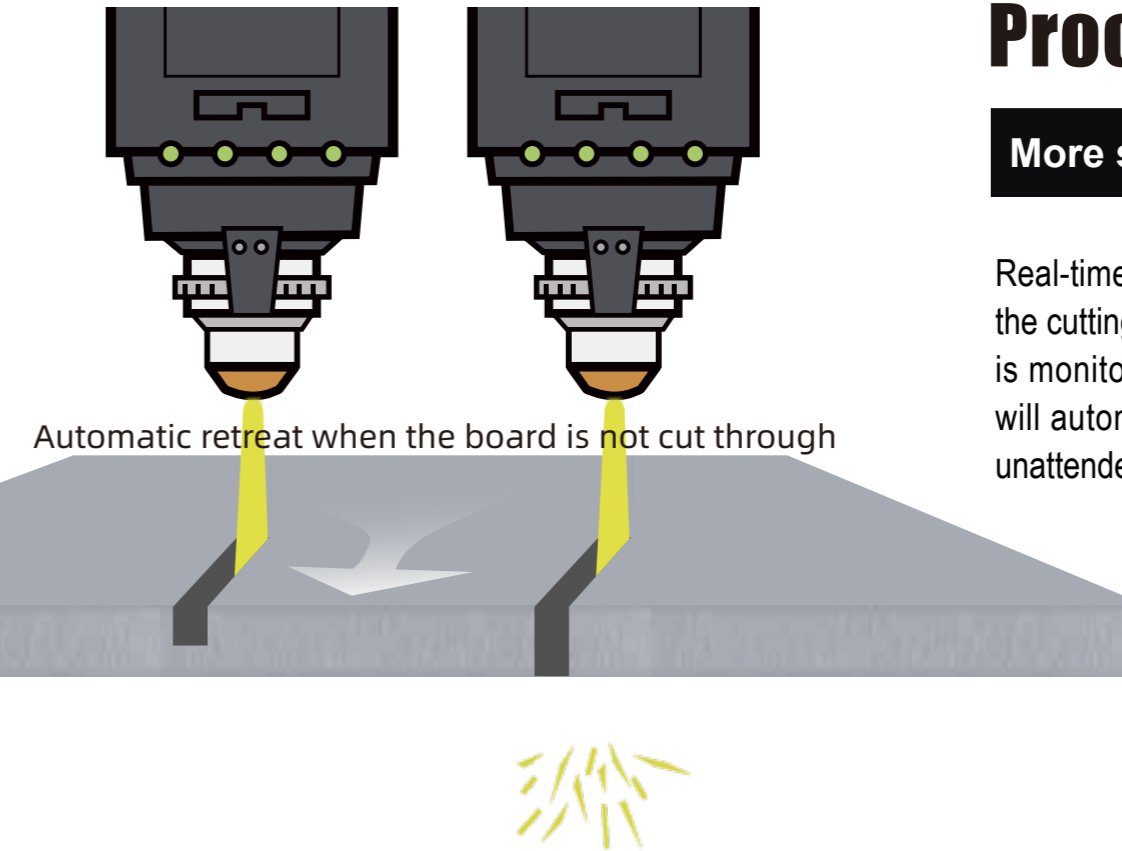
Using sensors to monitor the piercing process, continue cutting immediately after piercing, decrease waiting time and improve efficiency, and cost-effective.



## Process Monitoring

### More stable and efficient cutting

Real-time monitoring through the internal sensor of the cutting head. During the cutting process, when it is monitored that the slag is not cut completely, it will automatically retreat for re-cutting, achieve unattended operation and stable processing.



## BLT6X2H Features //

### Anti-collision Protection

#### More convenient maintenance //

The anti-collision design of the cutting head effectively reduces the depot-repair probability, without technical support, customers can replace by themselves, and the maintenance cost is lower.



## BLT6X2H Features //

### Astigmatism Monitoring

#### Easier troubleshooting //

Real-time monitoring of the astigmatism value inside the chamber of the head, which can effectively avoid damage to the cutting head due to excessive astigmatism values and can narrow the scope of investigation of contaminated lenses.



### Anti-explosion Monitoring of Protective Lens

#### Safer to use //

In high-power laser cutting operations, precise and sensitive sensors are crucial to the cutting head, BLT6 series pollution sensor and system algorithm are upgraded, excellent functions can help customers deal with various working conditions.



Tube cutting/Slant  
**BLT5**  
 Series



## BLT5 Series Cutting Head Functionalities

Tube cutting/Slant		
Model	BLT520H	BLT540H
Power	≤8kw	≤15kw
Closed-loop monitoring	√	√
Protective lens temperature monitoring	√	√
Cutting- gas pressure monitoring	√	√
Built-in amplifier	√	√
Anti-collision Protection	√	√
Anti-explosion detection of protective lens	√	√
Smart piercing	√	√
Process monitoring	√	√

# BLT5X0H

Tube cutting/Slant cutting

Focusing range:  
±50mm

Focusing speed:  
500mm/s

Repositioning accuracy:  
±0.01mm



## BLT5X0H Features //



## Slant Cutting

### One time forming //

BLT540H can achieve maximum  $\pm 45^\circ$  bevel cutting, one time forming, reduce the slope opening process, improve efficiency, and cut the maximum 400mm×400mm I-beam steel.



## Right Angle Cutting Head

**safer //**

The right-angle cutting head can reduce the swing angle of the fiber, effectively extend the life of the fiber.



## Anti-collision Protection

**More convenient maintenance //**

The anti-collision design of the cutting head effectively reduces the depot-repair probability, without technical support, customers can replace the broken parts by themselves, and the maintenance cost is lower.



## Air Pressure Monitoring

**Improve cutting stability //**

Real-time monitoring of gas flow rate during cutting, effectively reduces the affects of air pressure deficiency/exaggerated on cut surface quality.



## Built-in Amplifier

**Improve capacitance stability //**

Strong anti-interference ability, more stable capacitance

Bring You The Smart Factory.

**BOCI**

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