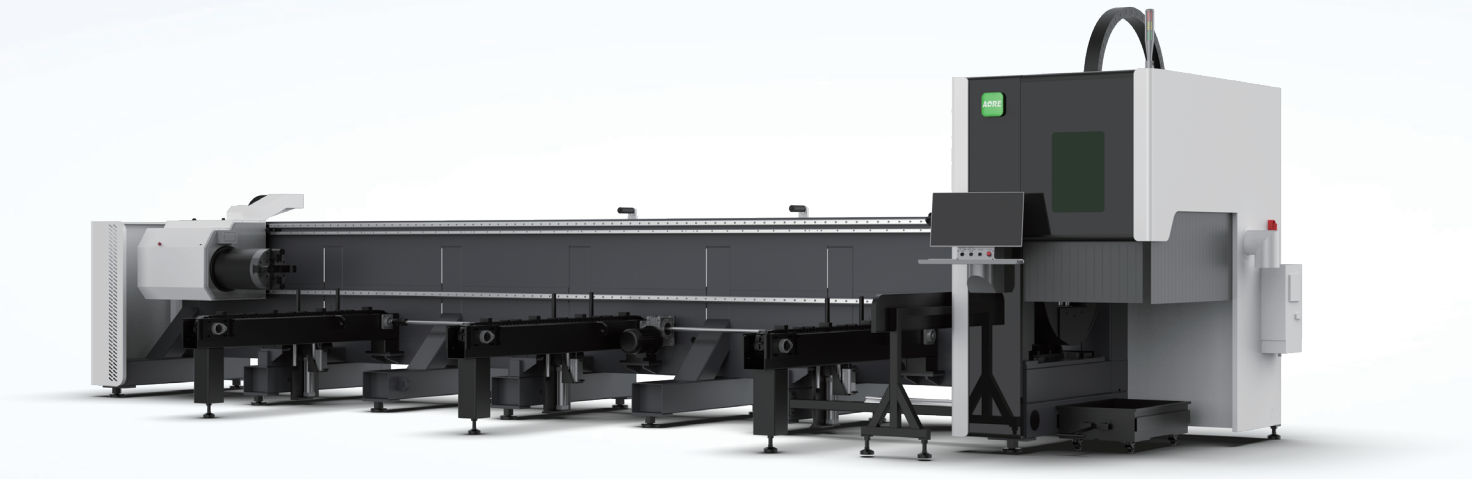
TTL Engineering Systems

TH Series

High-Speed Tube Laser Cutting Machine

1,500W-12,000W



#01 Extreme Speed

#02 Smart Manufacturing

#03 Professional Cutting

180+	200,000m²	110,000m²	200+	7×24h
Countries and Regions	Production Base	Intelligent Manufacturing Centre	R&D Team Members	After-sales Service

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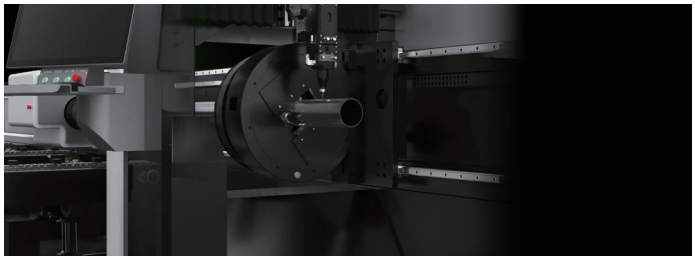
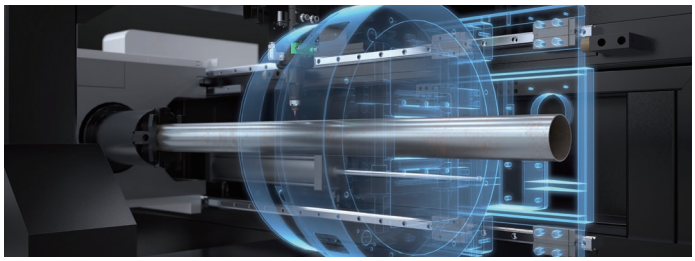
Electric Double Chucks for High Efficiency #1

It delivers greater transmission efficiency with a simplified design for easier disassembly and maintenance and supports intelligent identification and stable clamping of round, square, rectangular, and irregular tubes. Fast cutting response and reliable accuracy meet the demands of high-speed, high-quality production.



Forward Chuck Movement #2

Designed for long work-piece processing, the forward-moving chuck reduces unsupported tube length, enhancing clamping stability and cutting accuracy.

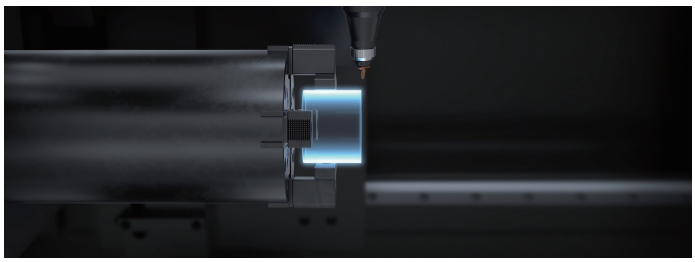


Smart Loading for Labor Savings #3

Equipped with an intelligent automatic loading, the machine enables fully automated material loading, significantly reducing manual intervention and boosting overall production efficiency.

Ultra-Short Scrap #4

Through optimized structural layout and cutting path design, the system achieves ultra-short scrap cutting, minimizing material waste. Compared to conventional solutions, it greatly improves material utilization, ideal for batch production scenarios where cost control is critical.



Technical Parameters	TH6020	TH6035
Power	1500W - 6000W	3000W - 12000W
Cutting Range	Φ15 - 230 mm □15×15 - 230×230 mm	Φ20 - 350 mm □20×20 - 350×350 mm
Max. Acceleration	1.5g	0.8g
Max. Air Cutting Speed	110 m/min	80 m/min
Max. Rotational Speed	120 r/min	80 r/min
Tube Length Range	≤6300 mm	≤6300 mm
Tail Material Length	70 mm	120 mm
Maximum Load Per Tube	300 kg	900 kg
Machine Dimensions (L×W×H)	9250 × 2635 × 2350 mm	9250 × 2780 × 2370 mm

*All technical specifcations and data shown are based on AORE Laser's intermal test results. Actual performance may vary depending on production conditions.

Application Industries

Steel Structure Construction

Fitness Equipment

Engineering Machinery

Oil Pipeline

more ...

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อำเภอลำลูกกา จังหวัดปทุมธานี 12150
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BOCI(BOCHU) Laser Cutting Head

Cutting Head Model	Supported Power Level	Fiber Interface	Focal Length (mm)
310T	≤4kW	QBH/EOC	200, 250
421T / 421TS	≤8kW	QBH, EOC	200, 250
442T	≤15kW	Q+/QD/QBH/ADD	200, 250

Features:

1. Seal Failure Monitoring

Extends Protective Lens Lifespan : Real-time monitoring of the sealing in the protective area effectively extends the lifespan of the protective lens, ensuring stable production

2. Dust Cover Plate

Stronger Sealing : A dust cover plate is added to the optical lens area, enhancing the sealing of the core cavity and extending the lifespan of the core lens.

3. Quadruple Protective Lens

Optical Protection, Extends Core Lens Lifespan : Establishes multiple protective barriers, enhancing the sealing of the core cavity.

4. Collision Protection

Easier Maintenance : The cutting head is designed with collision protection, effectively reducing the return-to-factory rate. No need for after-sales visits, as customers can replace parts themselves, resulting in lower maintenance costs.

5. Built-In Amplifier

Enhances Electrical Stability : Stronger anti-interference capability, more stable capacitance.

6. 3D Sensor Head

Multi-Type Pipe Cutting : Enables cutting of different types of pipes, including round, square, channel, and I-beams.

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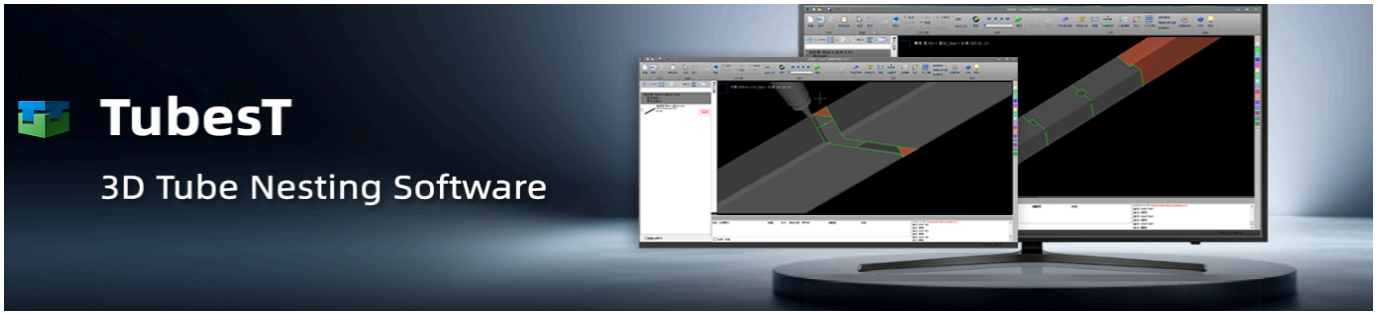
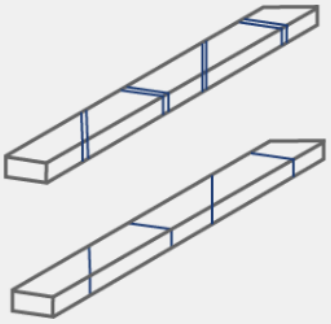


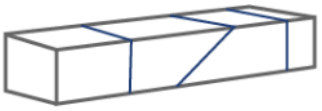
TubesT

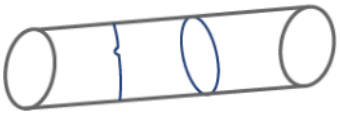
TubesT is a 3D tube nesting software designed for CypTube/TubePro laser cutting system. From parts drawing and modification, full type compensation, strategic nesting to report generation, using TubesT will meet and exceed your production needs.

Intelligent Nesting

TubesT supports nesting of parts of various shape all at once with minimum waste.





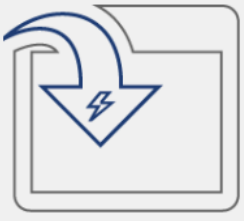


Flexible Common Line

Different parts, regardless of applied compensation, can merge common line toolpath in TubesT to reduce cutting times and minimize waste in production.

Quick Import

Parts or assemblies(IGS format) of multiple shapes can be imported in TubesT in a one-time operation to improve efficiency.



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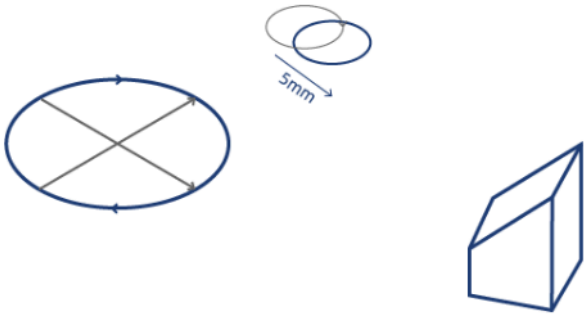
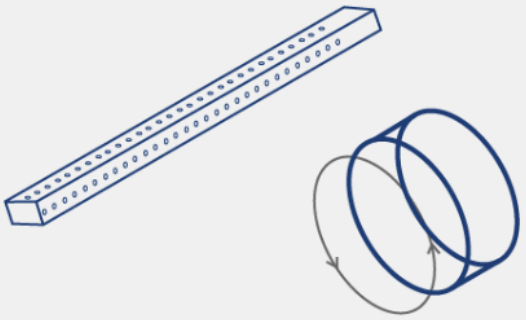


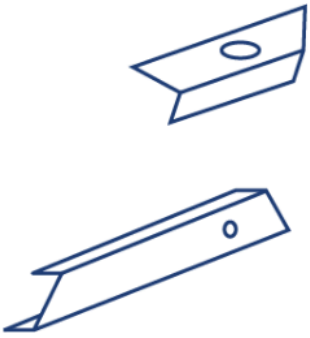
Drawing Modification

To solve the common problems in tube cutting, like through-hole precision and parts-assemble interference, TubesT developed flexible and easy-to-use functions for user to adjust parts drawing.

Automatic Sorting

Tube and profiles can finish automatic toolpath sorting by a simple click. For square and round tube, TubesT allows to generate toolpath by tube face sequence or by tube length interval.



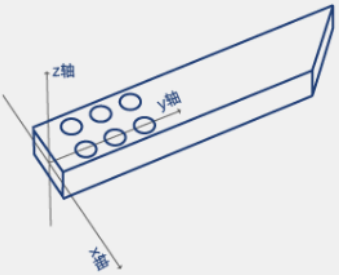


Profiles Production

TubesT supports toolpath generation, modification and common line nest of profiles like L/U/T/H shape to extend production ability of your machine.

Parts Design

TubesT integrates drawing functions of extrude, cut, hole and V-groove etc. , even user with zero CAD experience can get start easily.



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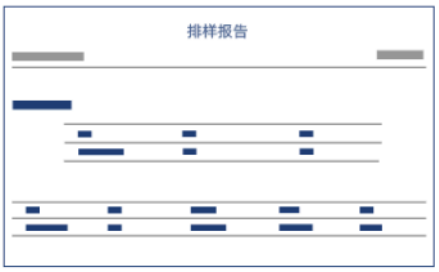

Nesting Report

Nesting report of clear data sheet to facilitate operator manage production schedule.

Auto Nest
Auto nest parts of different shape same time, also support to create common line toolpath in multiple patterns

Profiles and Free Forms
Support profiles of U/T/H/L shapes and free form shapes toolpath generation

Advanced Technique
Support advanced technique setting including Fly Cut, 2D editing and continuous toolpath generation

Assist Function
Support assembly file import, part drawing and nesting report functions

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Function Comparison

Nesting Capability

Function	TubesT (optional)	TubesTLite (standard)
Array	✓	✓
Auto nest	✓	✗
Manual adjust nesting	✓	✗
Nest different parts on one tube	✓	✗
Nest parts of different shapes in one time	✓	✗
Generate common line toolpath of various patterns	✓	✗
Material-saving nest strategy	✓	✗
Tolerance-allowed nesting	✓	✗

Production Capability

Function	TubesT (optional)	TubesTLite (standard)
Circle/rectangle/Obround	✓	✓
Free form tube(close-contour section)	✓	✓
Profiles(L/T/H/U shapes)	✓	✗
Sharp corner rectangle	✓	✗
Other free form tube of complex shape	✓	✗

Production Technique

Function	TubesT (optional)	TubesTLite (standard)
Lead line, kerf width compensation, cooling point, micro-joint etc	✓	✓
Start point, reverse, inner/outer, gap, overcut etc	✓	✓
Weld kerf compensation	✓	✓
Through holes	✓	✓
Vertical/horizontal through holes	✓	✗
Create continuous toolpath	✓	✗
Extend compensation styles	✓	✗
Fly Cut	✓	✗
2D edit	✓	✗
Bevel cutting toolpath	✓	✗

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Drawing Modification

Function	TubesT (optional)	TubesTLite (standard)
Break, join line segment	✓	✓
Replace as point, flip, fine tune, R corner adjust	✓	✓
Draw wrapping	✓	✗
Text	✓	✗
Profile toolpath modification	✓	✗
Rotate tube section	✓	✗
Edit 3D vector of contour	✓	✗

Sorting

Function	TubesT (optional)	TubesTLite (standard)
Sort along Y axis	✓	✓
Reverse sequence	✓	✗
Manual sort	✓	✗
Sort by tube face	✓	✗
Unfold 3D drawing to sort	✓	✗
Holes around cut-off section first	✓	✗
Optimize B axis rotation	✓	✗

File

Function	TubesT (optional)	TubesTLite (standard)
Import IGS, SAT file	✓	✓
Import *.jhb file(TubesT generated)	✓	✗
Batch import part by Excel table	✓	✗
Import assembly part	✓	✗
Save/read YXY project file	✓	✗

Others

Function	TubesT (optional)	TubesTLite (standard)
Measure	✓	✓
Simulation	✓	✓
Report	✓	✗

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