

XTE Compact Tube Laser

The Morgan Rushworth XTE Compact Tube Fibre Laser Cutting Machine combines intelligent automation, modular design, and high-speed tube processing. With ultra-fast automatic loading and the flexibility to switch between fully automatic and semi-automatic operation, the XTE range is available in three capacities to process round tubes from 8-120mm, 10-160mm, or 12-250mm diameter.



It adopts a side-mounted machine bed structure, with the front chuck featuring a retractable function. When combined with a composite dual-function chuck, it enables zero scrap cutting, thereby minimising material waste. Equipped with the PA Controller, and Lantek or Sigmanest software, the XTE is a highly capable machine for processing small tubes and box section.

FEATURES AND BENEFITS



**Up to
7.5m Infeed**



**Up to
6m Outfeed**



**3, or 6kW
Laser Power**



**Up to 2.0G
Acceleration**



**Up to 250mm
Tube Diameter**



**Up to 2,000kg
Bundle Weight**



RAYTOOLS CUTTING TORCH



STEP LOADER



LOADING SYSTEM

MACHINE FEATURES

- Fibre optic beam delivery system
- Raytools Laser Cutting Head
- Applicable tube types : Round tube, square tube, rectangular tube, oval tube, D-shaped steel, T-shaped steel, H-shaped steel, channel steel, angle steel, etc.
- Material Receiving and Collecting System
- CE compliant complete machine enclosure and light barrier system
- PA Control System
- Lantek / Sigmanest Software
- Bundle Step Loader Semi-Automatic Loading System
- Zero scrap cutting with pneumatic clamping system to avoid final parts being stuck in the chuck.
- 2 Chuck Machine
- Scrap collection draw
- 2m Outfeed

OPTIONAL EQUIPMENT

- Bevel Head - Osprey / LT Ultra
- Weld Seam Detection
- 4m / 6m Outfeed
- Head Scanning
- IPG Laser Source
- Chain Loader
- Filtration & Extraction



REAR CHUCK



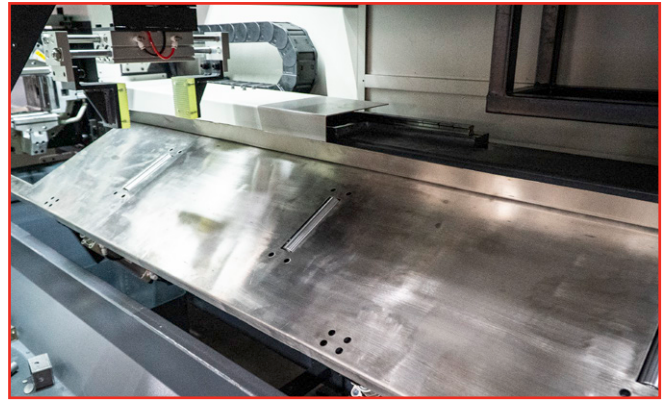
PA CONTROLLER



OUTFEED PART COLLECTION



SERVO CONTROLLED INFEEED SUPPORT



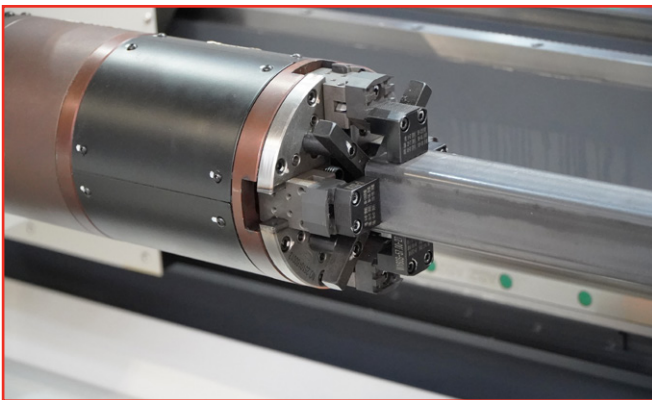
SERVO CONTROLLED OUTFEED SUPPORT



PARTS COLLECTOR BIN



SCRAP / SMALL PARTS WHEELED COLLECTION BIN



REAR-CHUCK (CLOSE-UP)



PA CONTROLLER



COMPACT STEP LOADER LOADING SYSTEM

Compact Bundle Step Loading Systems

The XTE is equipped with an innovative automatic loading system that features a servo adjustment to suit the size of tube or box section being loaded, and brings the material down gently without any harsh impacts.

It seamlessly integrates every link in the tube processing workflow, from automatically loading the tubes, precisely conveying them, to efficiently performing cutting operations, and finally organising the collection of the processed tubes, thus establishing a one-stop closed-loop processing process.

This innovative design significantly enhances production efficiency while granting greater flexibility to the manufacturing process, making tube processing more convenient, efficient, and intelligent.



Maximum Acceleration **2.0G**

The XTE cutting equipment is equipped with up to 2.0g acceleration dynamic performance, enabling precise positioning and efficient cutting. This significantly increases the cutting speed and reduces non-cutting (air travel time) optimising processing efficiency. Additionally, it effectively avoids laser energy waste caused by inefficiency and material ablation issues during small tube cutting.

Maximum Positioning Speed **120m/min**

The XTE significantly boosts cutting efficiency with a maximum positioning speed of up to 120m/min. Its rapid positioning and path switching capabilities drastically reduce non-cutting time such as material feeding and air travel, comprehensively optimising overall processing efficiency.

Maximum Rotation Speed **200RPM**

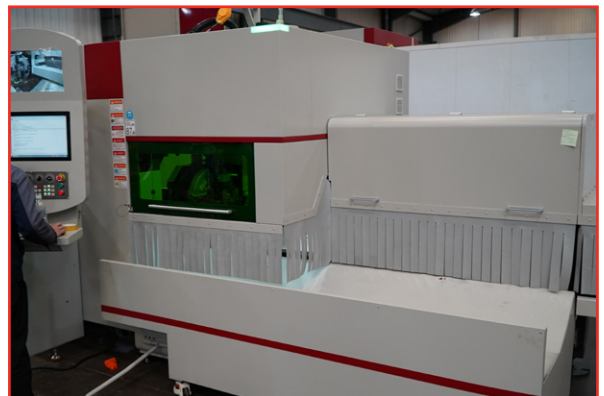
With a maximum rotational speed of 200r/min, the laser cutting head achieves rapid and flexible movement. This is particularly evident in tasks such as rotational air travel, tube truncation, and complex corner cutting, where it demonstrates exceptional dynamic response and efficient processing capabilities.

High Sealing Performance	Strong clamping force	Wear-resistant and durable
The chuck adopts an advanced fully enclosed structural design, significantly reducing the risk of dust generated during cutting entering the interior of the chuck. This effectively avoids issues such as unstable clamping or jamming caused by dust accumulation. Additionally, its routine maintenance is extremely simple, greatly reducing downtime and maintenance costs, and improving overall work efficiency.	The chuck possesses excellent clamping performance, fully ensuring stable clamping of the tubing. At the same time, the clamping force supports visual adjustment, allowing users to easily adjust the clamping force to ensure that thin-walled small tubes are both stable and do not deform during clamping. This provides a safe and reliable clamping solution for various types of tubing.	The chuck is made of high-quality wear-resistant materials, which allows the equipment to maintain excellent performance even under long-term, high-intensity working conditions. Additionally, the core components have undergone careful hardness modulation treatment, not only improving the durability of the parts but also ensuring that the chuck remains stable and reliable under high-speed, high-precision working conditions.

Integrated Material Receiving and Discharging for Seamless Connection

Material Receiving

The material discharging support system features adaptive adjustment capabilities, capable of flexibly accommodating workpieces of different lengths and achieving precise lifting support. After the cutting operation is completed, the support wheels automatically descend, and the workpiece slides smoothly and slowly down the inclined surface design into the material receiving area, effectively avoiding scattering and damage caused by direct impact on the ground or the receiving frame. Compared to processing scenarios without material receiving and discharging functions, this ensures the safety and integrity of the workpiece.

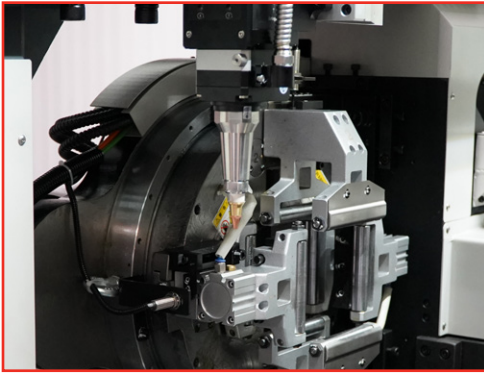


Material Collection

The material receiving area is designed with efficient storage and buffering capabilities, aiming to reduce manual intervention and enhance the automation level of the production process. This area can safely and orderly store a certain number of workpieces, thereby avoiding the cumbersome process of operators needing to frequently and individually pick up workpieces from the discharging area and manually place them in the designated location. By accumulating a certain number of workpieces, the material receiving area achieves the effect of “batch processing,” enabling unified and less frequent material picking and handling operations when the workpieces accumulate to a certain amount.



This optimisation not only significantly reduces manual labour intensity but also improves production efficiency.



Zero Scrap Cutting

The front chuck of the XTE, through its ground breaking and innovative design, seamlessly integrates automatic avoidance cutting technology with a composite dual-clamping function, bringing about a revolutionary transformation in the field of pipe cutting. It can effortlessly achieve a zero scrap/offcut cutting effect, comprehensively enhancing cutting efficiency and material utilisation.

As the processing workflow nears its end, the front chuck of the XTE demonstrates exceptional intelligent characteristics by automatically initiating an avoidance program. This allows the cutting head to move freely and flexibly within the space between the front and rear chucks. Subsequently, the clamping jaws of the front chuck quickly and securely grip the pipe, while the rear chuck automatically releases and retracts to its initial position. At this point, relying solely on the single-chuck clamping state of the front chuck, the cutting head can smoothly complete the remaining cutting tasks.

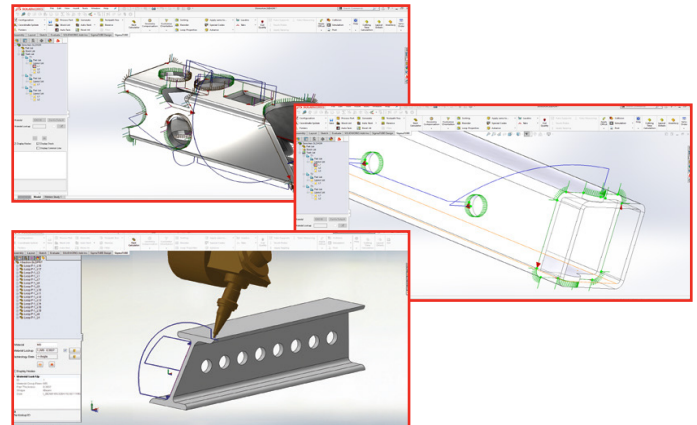
This exquisite design ensures that there are no blind spots in the cutting process. The cutting head can precisely reach any position at the end of the pipe for cutting, truly achieving the goal of zero scrap/offcut cutting. In comparison to the traditional double-chuck pipe cutting method, which can result in up to 220mm of scrap waste, the front chuck of the XTE significantly reduces this figure to 0mm, achieving the ultimate optimization of material utilization. Moreover, while minimising scrap waste, this design also ensures the cutting precision of the last workpiece, providing a strong guarantee for processing quality.

Tube and Pipe Made Simple with SigmaTUBE SW Software

While SigmaNEST covers sheet and plate, SigmaTUBE SW extends this intelligence into the world of tube, pipe, and structural cutting. Fully embedded within SOLIDWORKS, it provides fabricators with a seamless way to process complex 3D assemblies. Entire tube assemblies can be imported, automatically broken down into individual parts, and nested for maximum yield within seconds.

The software's advanced feature recognition identifies tube sections, holes, and joint details, grouping similar parts by material and cutting process. Toolpathing is designed to be both automatic and flexible, with options for weld preparation, seam compensation, and common-line cutting to reduce cycle times.

Its fully 3D environment provides instant visualisation of machine heads, nests, and toolpaths, making editing and verification straightforward. Large assemblies can be easily handled, while animated previews of the cutting process offer confidence before a single pierce is made. Reporting is equally strong, generating clear documentation on cutting length, time, toolpaths, and inventory use.

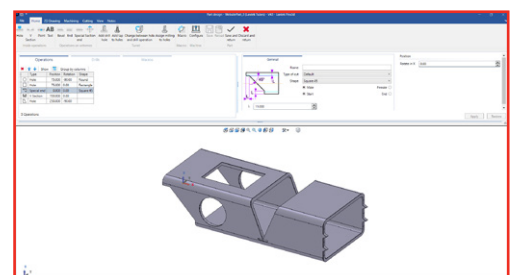


Lantek Flex3D Tubes Software

Lantek Flex3D Tubes integrates with various kinds of tubular geometry importers such as SAT and IGES. This software allows 3D design to be simple and intuitive. It gives a true vision of the resulting design profile that will eventually be cut on a machine.

This system is a parametric system which allows the user to change the values of any operations previously made, including changes to the initial parameters of each tube (lengthening, shortening, change of diameter).

Once the design stage is complete, the user can simulate optimisation of the tube (nesting) and the path followed by the cutting head. The software will directly generate the NC program in order to send this optimisation to the machine.



TECHNICAL SPECIFICATIONS

MODEL NUMBER		XTE 6012.3000	XTE 6012.6000	XTE 7512.3000	XTE 7512.6000	XTE 6016.3000	XTE 6016.6000	XTE 7516.3000	XTE 7516.6000	XTE 6023.3000	XTE 6023.6000	XTE 7523.3000	XTE 7523.6000
STOCK CODE		M7820	M7821	M7822	M7823	M7824	M7825	M7826	M7827	M7828	M7829	M7830	M7831
Laser Source	kW	3	6	3	6	3	6	3	6	3	6	3	6
Max. Tube Length	mm	6,000		7,500		6,000		7,500		6,000		7,500	
Tube Diameter Range (semi-auto loader)	Ø mm	12 - 110				12 - 150				12 - 200			
Box Section Diameter Range (semi-auto loader)	mm	12 x 12 - 110 x 110				12 x 12 - 150 x 150				12 x 12 - 200 x 200			
Tube Diameter Range (auto loader)	Ø mm	8 - 120				10 - 160				12 - 250			
Box Section Diameter Range (auto loader)	mm	8 x 8 - 120 x 120				10 x 10 - 160 x 160				12 x 12 - 250 x 250			
Axis Acceleration	G	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Max. Single Tube Weight	kg	80	80	80	80	110	110	110	110	300	300	300	300
Max. Bundle / Semi-Auto Loading Weight	kg	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	2,000	2,000	2,000	2,000
Type of Infeed Supports		Servo Controlled											
Type of Outfeed Supports		Servo Controlled											
Chuck Speed	rpm	200	200	200	200	150	150	150	150	120	120	120	120
Feed Speed	m/min	120	120	120	120	120	120	120	120	120	120	120	120
Absolute Positioning Accuracy	mm	± 0.05											
Repeatability (X & Y Axis)	mm	± 0.03											
Cycle Time	s	10											

CUTTING CAPACITIES

Material	Gas	Capacity	LASER SOURCE	
			3kW	6kW
Carbon Steel	O2	mm	16	20
Stainless Steel	N2	mm	10	15
Aluminium	Air	mm	6	15
Brass	N2	mm	5	10
Copper	O2	mm	3	8

