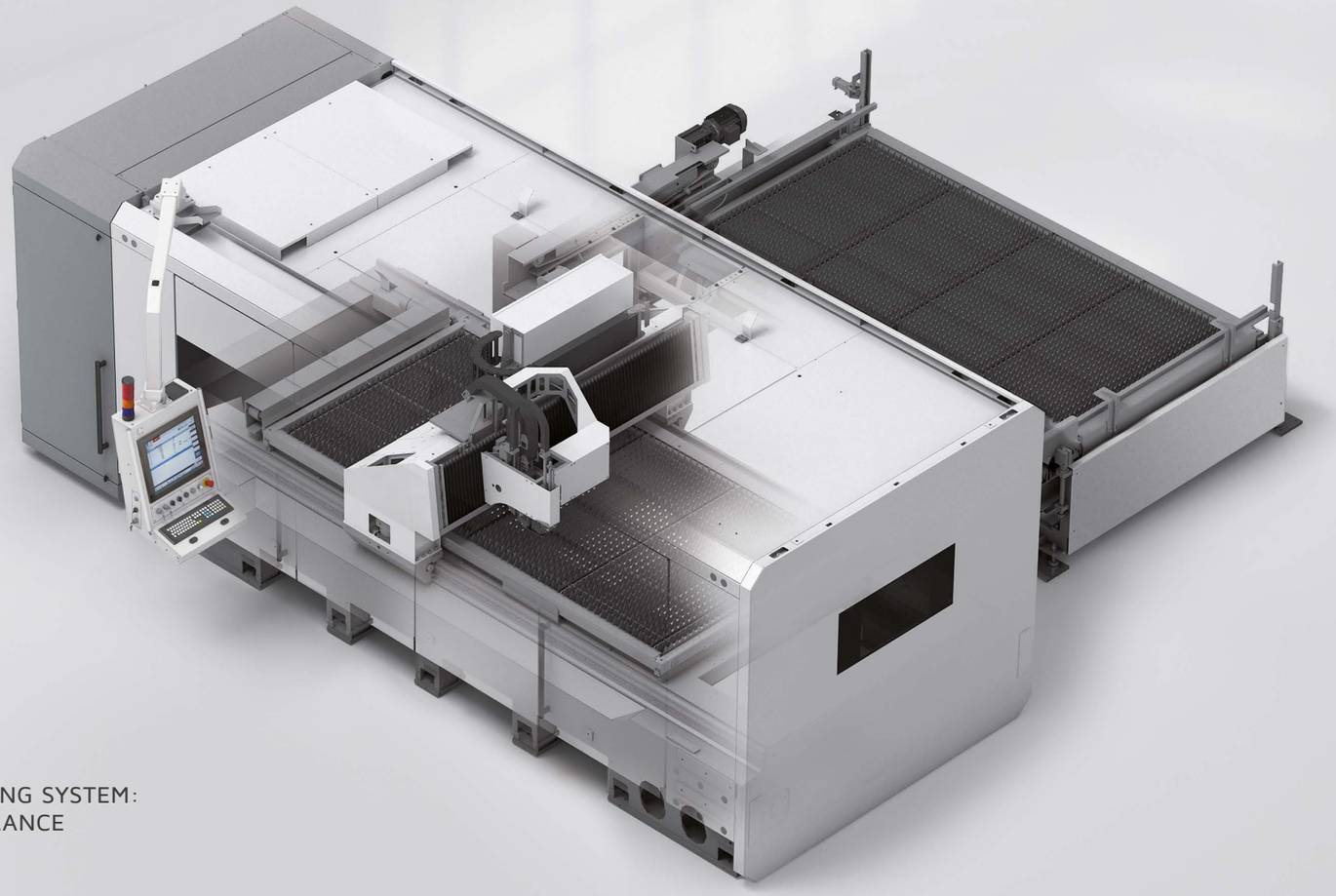
LS**5**
LASER SHEET CUTTING

BLM GROUP

EN

WWW.BLMGROUP.COM

LS**5**
INVESTING WITH AN EYE TO THE FUTURE



LS5 SHEET LASER CUTTING SYSTEM: VALUES IN PERFECT BALANCE

PRODUCTIVITY
High axis speed and acceleration paired with a rigid mechanical structure means excellent cutting performance and accuracy.

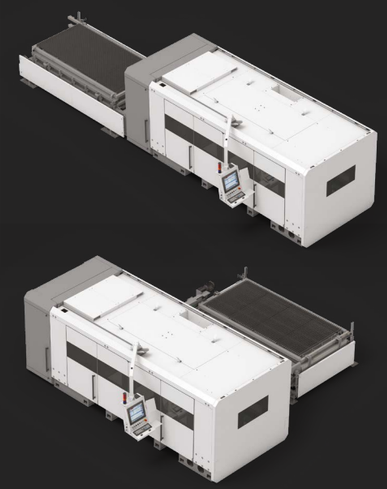
COMPACT
Compact size and integration of all electric components minimize space and installation time.

QUALITY AND ACCURACY
All processing operations are automated allowing anyone to obtain the best production quickly.

ACCESSIBLE
The doors open along the entire side of the machine to allow access to the entire cutting area for faster inspection and intervention.

EXPANDABLE
Wide availability of automatic loading and unloading options for unmanned production, which can be implemented immediately or integrated in the future.
The only sheet laser cutting system in the world which can be integrated with a Lasertube machine.

CONFIGURABLE, EXACTLY AS NEEDED



The **LS5** is available with in-line or rear electric pallet changer so it can be adapted to your floor space needs.

Working range:
3000 x 1500 mm (118” x 59”)
4000 x 2000 mm (157” x 79”)
6000 x 2000 mm (236” x 79”)

Fiber laser source: from 3 kW to 12 kW.

Automatic loading and unloading pallet changer.

Lasertube module.

PRODUCTIVITY
REAL TOP-IN-CLASS PERFORMANCE

OPTIMISED MATERIAL USE WITH NESTING

The system arranges the parts on the sheet, minimizes scrap, automatically calculates the best cutting path and distinguishes geometries according to technological complexity.

MAXIMUM SHEET THICKNESSES

Mild steel (N_2)

3 kW	5 mm
4 kW	6 mm
6 kW	8 mm
8 kW	12 mm
10 kW	15 mm
12 kW	15 mm

Mild steel (O_2)

3 kW	15 mm
4 kW	20 mm
6 kW	25 mm
8 kW	25 mm
10 kW	30 mm
12 kW	40 mm

Mild Steel (Air)

3 kW	5 mm
4 kW	6 mm
6 kW	8 mm
8 kW	10 mm
10 kW	10 mm
12 kW	12 mm

Copper

3 kW	5 mm
4 kW	8 mm
6 kW	12 mm
8 kW	12 mm
10 kW	12 mm
12 kW	12 mm

Stainless steel

3 kW	10 mm
4 kW	15 mm
6 kW	30 mm
8 kW	35 mm
10 kW	40 mm
12 kW	40 mm

Aluminum (Air)

3 kW	6 mm
4 kW	8 mm
6 kW	15 mm
8 kW	15 mm
10 kW	25 mm
12 kW	25 mm

Brass

3 kW	6 mm
4 kW	8 mm
6 kW	10 mm
8 kW	10 mm
10 kW	15 mm
12 kW	15 mm

Aluminum

3 kW	10 mm
4 kW	15 mm
6 kW	30 mm
8 kW	35 mm
10 kW	35 mm
12 kW	40 mm

PROCESS CONTINUITY

Parts can be picked and new blank sheets can be loaded in the background.

All these advantages translate into higher productivity and lower cost per part.

FAST MACHINE DYNAMICS

The LS5 can be equipped with a fiber laser source of power from 3 kW to 12 kW. The faster speed of nitrogen fiber laser cutting on thin surfaces more than doubles machine productivity when compared to CO_2 laser processes.

Cutting technology has evolved with new active devices and sensors which adapt the process to the material conditions for increased cutting speed and high accuracy.

The cover lens is monitored by a cover glass sensor system. If the cover lens is contaminated during production, the system indicates that cleaning or replacement is needed to maintain consistent cutting quality. This saves the operator time and ensures the window is replaced only when actually needed.

QUALITY AND ACCURACY: EXCELLENCE WITHIN EVERYONE'S GRASP

Created to guarantee productivity, safety, quality, automation and ease of use, Active Tools are cutting-edge technical solutions which automatically adapt working parameters to achieve the best results in less time, regardless of the operator's practical experience.

ACTIVE NOZZLE CHANGING
Ideal for working in unmanned mode, this function allows automatic 18-position nozzle change and monitoring in real time.

ACTIVE SPEED
This function is used to obtain a higher cut quality even on the most critical processes by recognizing the geometries and automatically optimizing cutting parameters.

ACTIVE PIERCING
This function drastically increases productivity on medium-high thickness materials by detecting material breakthrough. In case of deviations in cutting operations, it acts as a process control to preserve the material.

ACTIVE ZOOM
By modifying the diameter of the spot size, this function optimizes the use of high powers by increasing quality when processing thick materials and improving performance on thin materials.

ACTIVE FOCUS
This function improves cutting quality by automatically adjusting the focus according to material and thickness.

ACTIVE NOZZLE CENTER
This function assists the operator in centering the nozzle, simplifying and speeding up work considerably as a result.

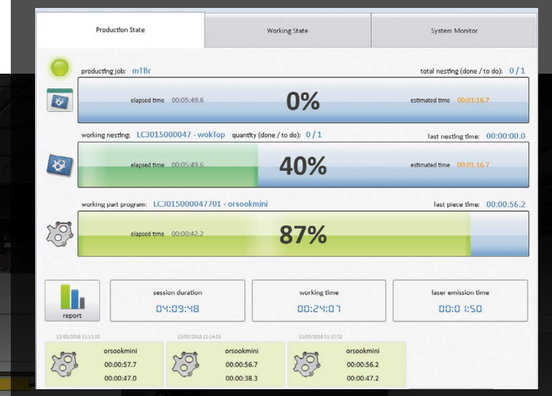
FLY CUT
This function reduces the time required for the cutting grid patterns by up to 70%.

ACTIVE CAMERA
This function uses the residual pieces of sheet left over from previous nesting operations in an easy, fast and user-friendly way employing a special viewing system.

ACTIVE COOL
This function improves cutting quality for thick materials, reducing overheating of sheet and nozzle by using a liquid cooling system.

ACTIVE MAIL
This function provides useful support for managing maintenance. It provides information on the activities to be performed and sends an email containing the maintenance report.

ACCESSIBLE:
VALUE YOU WILL APPRECIATE DAY AFTER DAY



Production progress is conveniently monitored using the data made available directly on the operator panel.

VISIBILITY AND CONTROL

The position of the 19” touchscreen can be adjusted as desired along the front side of the machine to improve visibility and cutting process control.

TOTAL ACCESSIBILITY

Large front windows provide convenient viewing of the entire pallet working area. The operator is able to act promptly for checks or interventions during production.

EFFICIENT SUCTION

Large openings under the pallet exhaust fumes generated during cutting. When the doors are opened, the inside of the enclosure cabin is entirely fume-free and the operator can intervene immediately and comfortably.

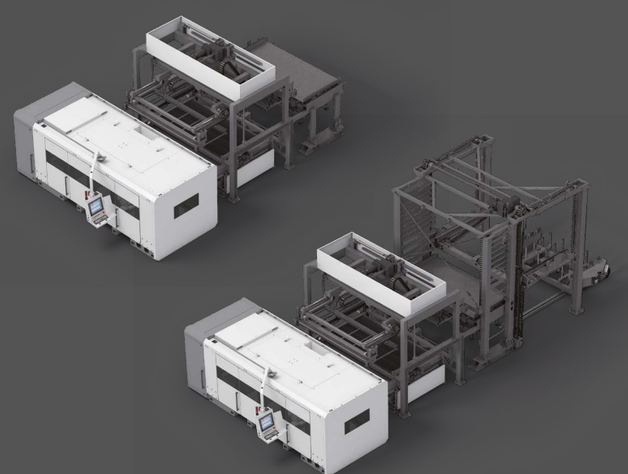
EASY SCRAP MANAGEMENT

Four boxes arranged on the operator side are used to collect the scraps under the work area. The boxes are mounted on wheels to be easily extracted and lifted.

EXPANDABLE:
THE SYSTEM GROWS ACCORDING TO YOUR NEEDS

THE LS5 IS A MODULAR SYSTEM WHICH CAN BE EASILY EXPANDED

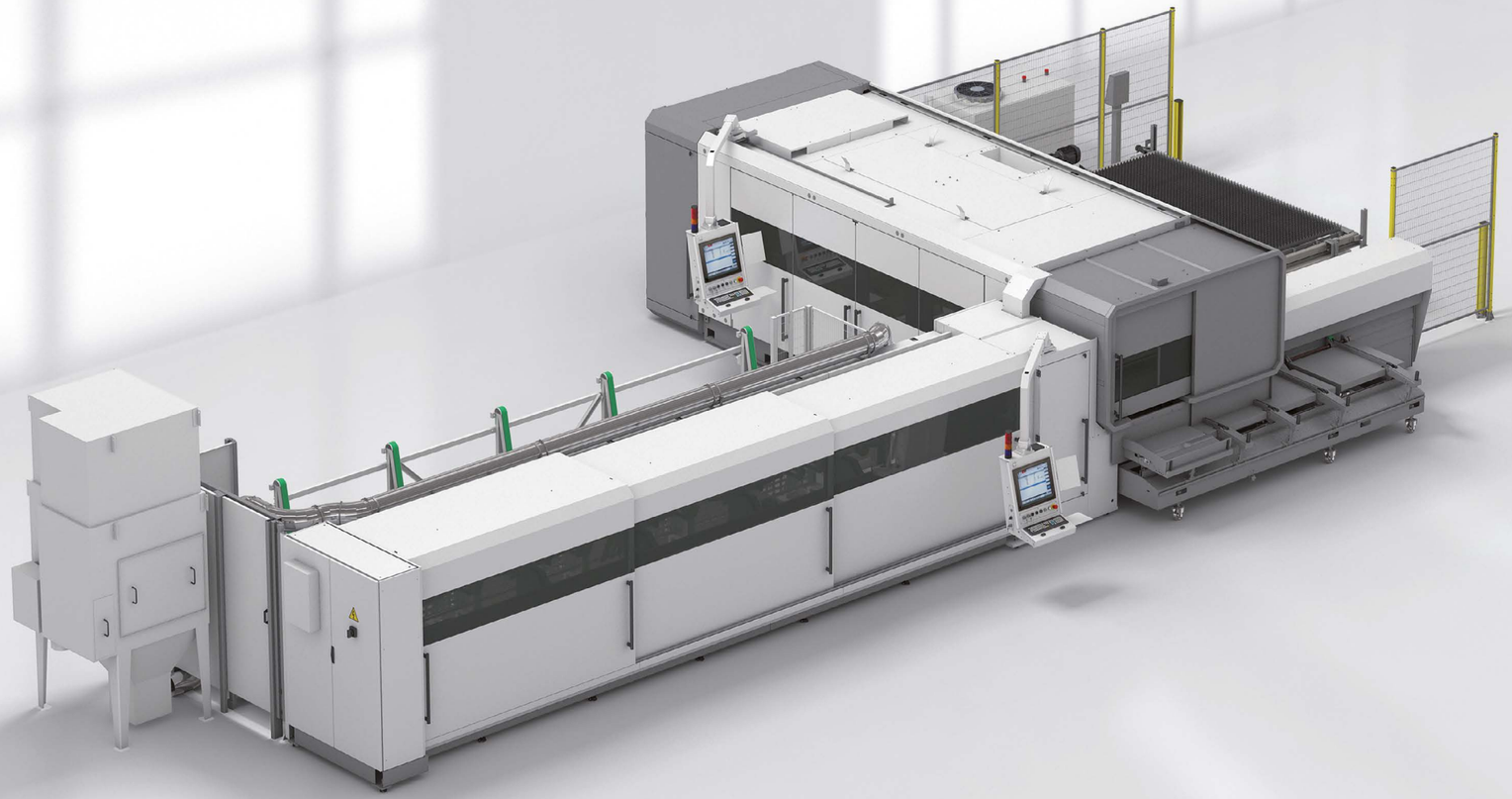
As production volumes increase or new production opportunities develop, the machine can be integrated with an automatic system for loading sheets and unloading processed parts from the pallet changer or with an automatic sheet store with one or two towers.



The investment can be controlled over time, with specific technical solutions for all production needs.

The tube module can be installed even later, quickly with no need for rewiring or major mechanical operations.

LC**5**
ONE CHOICE
TWICE THE OPPORTUNITIES



LC5 COMBINED LASER CUTTING SYSTEM: ONE OF A KIND

NEW OPPORTUNITIES
A single system for processing tubes and sheets opens up new business opportunities. LC5 is the answer when a small footprint is the key or if the production rate does not justify the use of two separate systems.

PRODUCTIVITY
One machine for two processes, with no trade-offs for tube and sheet jobs alike, each one offers the same performance as a dedicated system.

COST-EFFECTIVENESS
The cost per part is minimized. Factors such as different production organization, possibility of switching from tube to sheet in just three minutes, possibility of using one machine for two processes, smaller footprint than two separate systems and possibility of non-stop use all contribute to determining an extremely competitive cost per part.

ERGONOMICS
The large double opening doors on side facilitate access to the work area and loading of single bars.

The double operator console, one on sheet side and the other on tube side, ensure the perfect control of the process at all times.

TUBE OR SHEET:
NO NEED TO CHOOSE,
YOU CAN HAVE BOTH.

Immediate tube <> sheet switchover.

Round, square, rectangular, oval tubes up to 120 mm (4.7”) in diameter, angular profiles up to 50 mm x 50 mm (2.0” x 2.0”) and UPN up to 80 mm (3.1”).

Automatic bundle loading 6.5 m (256”).

Assisted loading for single bars
Automatic unloading.

Sorted collection solutions.

Processing scrap separation.

BLM GROUP 3D graphic CAD/CAM.

NEW OPPORTUNITIES
MORE COMPETITIVENESS

THE ADVANTAGES OF A COMBINED MACHINE

MORE COMPETITIVENESS
With fewer competitors, entering the tube market this sector opens up new profit opportunities.

SAVINGS
One single machine for tube and sheet metal means less installed power than two separate machines.

PRODUCTIVITY
The high degree of automation of the LC5 means you can work non-stop. You can run it for tube cutting during the day and sheet cutting, in automatic mode, during the night.

SPACE-SAVING
LC5 is ideal in all situations when two separate systems can not be justified because of floor space or production volumes.

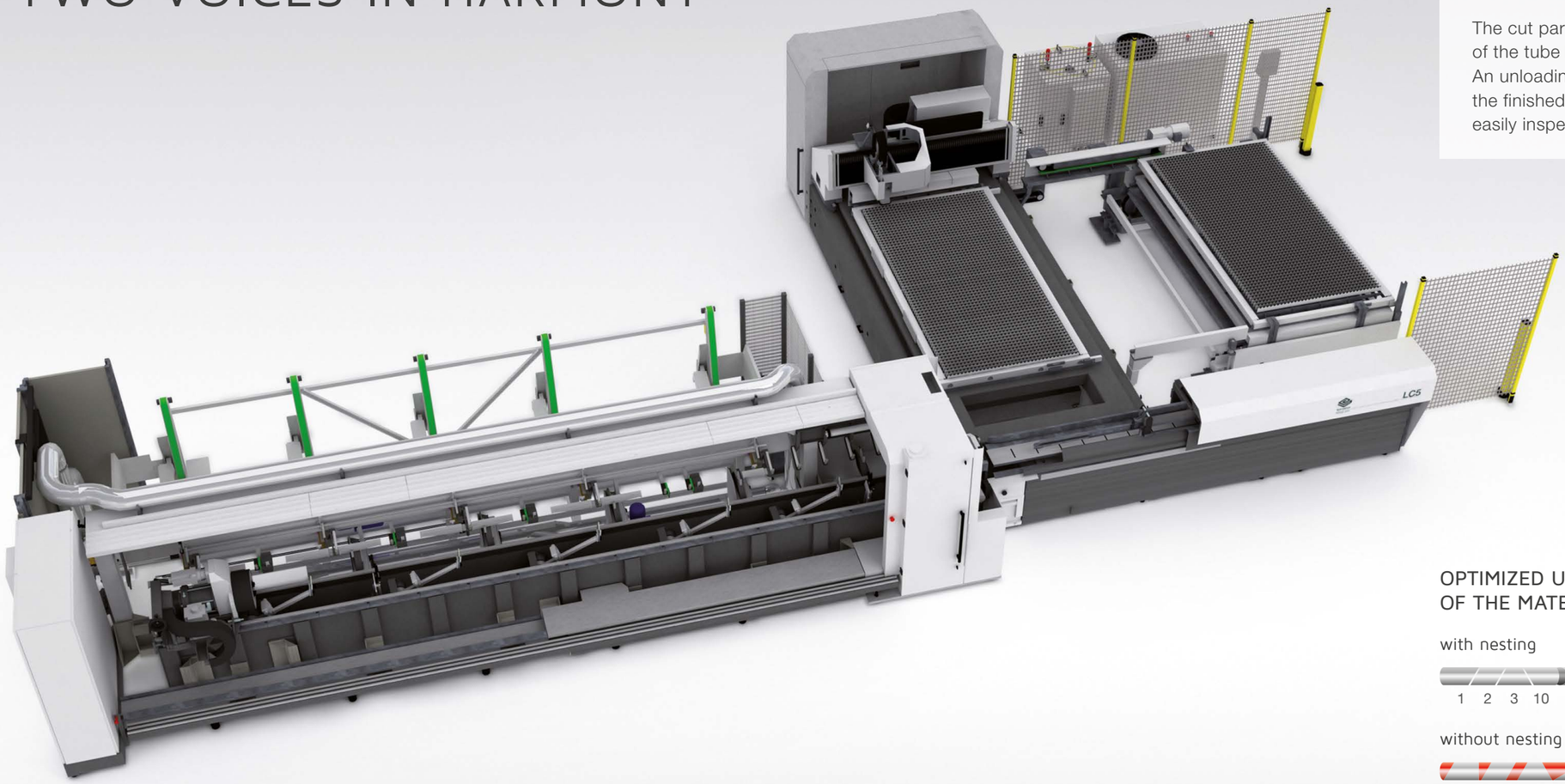
NEW SOLUTIONS FOR CUSTOMERS

Using laser-cut tubes and profiles means you can broaden your production range with new projects and to review some solutions previously made with sheet in more efficient manner.

ERGONOMICS:
TWO VOICES IN HARMONY

EVERYTHING AT HAND

The cut parts are conveyed out from the front side of the tube line, near the operator console.
An unloading bench with motorized chains takes the finished tubes to a position where they can be easily inspected and picked.



OPTIMIZED USE
OF THE MATERIAL (NESTING)

with nesting

without nesting

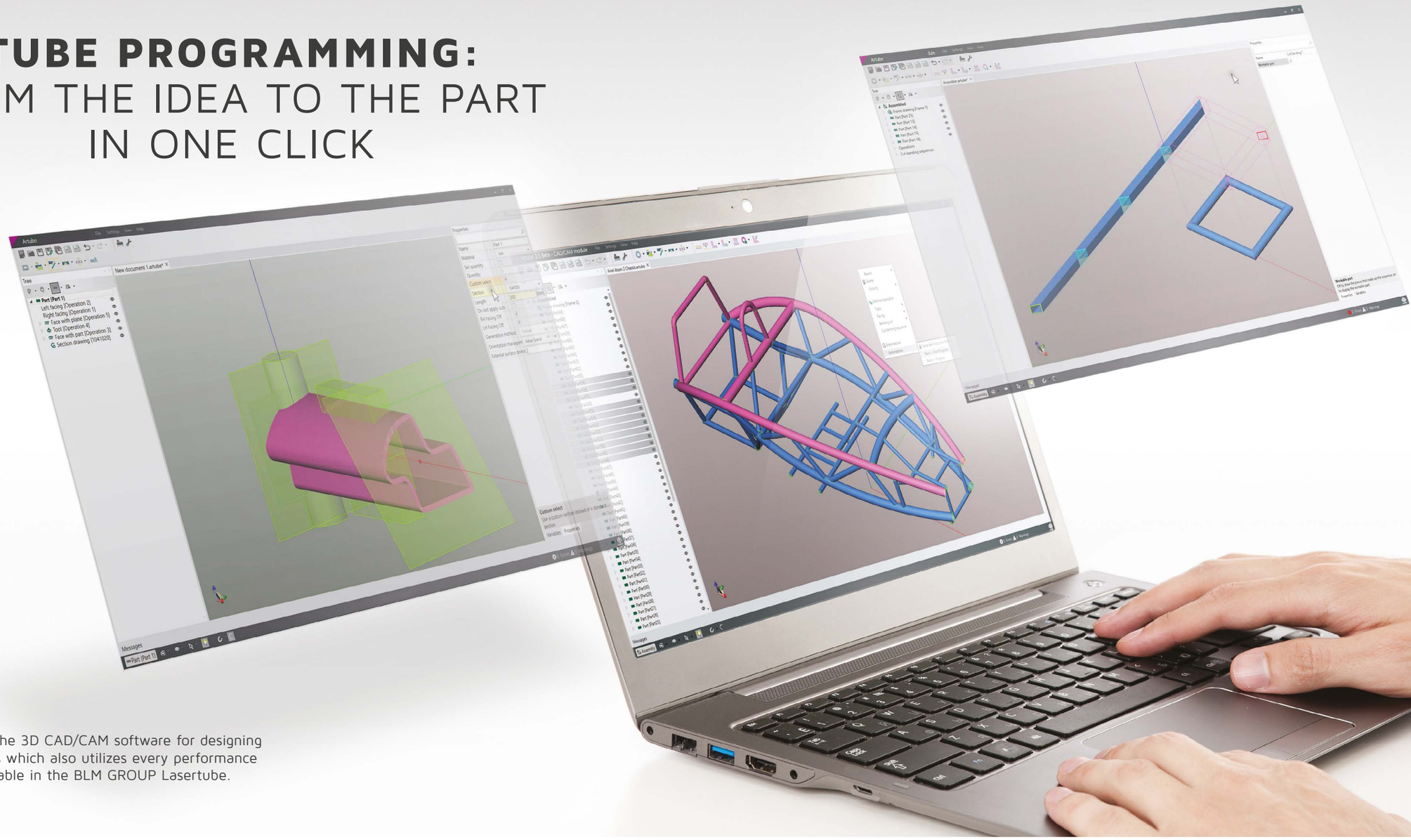
EFFECTIVE TUBE HANDLING

The large capacity loader can automatically manage bundles of unsorted tubes (round, oval) and bundles of sorted square and rectangular profiles.

PRODUCTIVITY AND PERFORMANCE

Each tube is taken from the bundle and measured during preloading operations. By accurately knowing the bar length, the machine optimizes part nesting to minimize waste.

TUBE PROGRAMMING:
FROM THE IDEA TO THE PART IN ONE CLICK



ARTUBE is the 3D CAD/CAM software for designing tubular parts which also utilizes every performance margin available in the BLM GROUP Lasertube.

ALL THE CONTROLS YOU NEED TO DRAW A NEW PART ARE AT YOUR FINGERTIPS

Enter the tube dimensions, add the various cuts and go straight to production. In Artube, you can process special sections as if they were standard.

FROM SINGLE PART TO COMPLEX STRUCTURES

The design of a frame is performed without errors, thanks to the ability to see every detail with clear 3D graphics.

IMPORT 3D MODELS AND TRANSFORM THEM INTO PART PROGRAMS RIGHT AWAY

The import of the 3D models (STEP, IGES, X_T and IFC) is obtained with a single mouse click. After importing, the previously entered jobs can be entered and new ones can be added as if the imported model was entirely designed in Artube.

THE CUT-BENDING OPTION TAKES TUBE THICKNESS AND DIMENSIONS INTO ACCOUNT

Use the cut-bend function to reduce the number of parts and simplify the assembly and welding operations. Artube manages straight and bent tubes. Just click to replace a bend with a bend-cut and vice versa.

ONE SOFTWARE PROGRAM
FOR PLANNING TUBE AND SHEET PRODUCTION

MAKE ACCURATE TIME AND COST ESTIMATES

In a few seconds provides accurate estimates of the processing time and cost for an entire production batch to obtain reliable estimates and to compare different manufacturing strategies.

PREPARE WORK ORDERS AND SEND THEM TO THE MACHINES

Gain efficiency by organizing machine programs in work orders and sending them to each connected system.

REMOTE MANAGEMENT

- Real-time production monitoring
- System operating statistics
- Estimated time remaining before batch change
- Centralized management of processed batches, work orders, and jobs accessible from any workstation for new launches or updating.

INTEGRATION WITH ERP SYSTEM

Production lists can be sent from the ERP system.

TECHNICAL SPECIFICATIONS

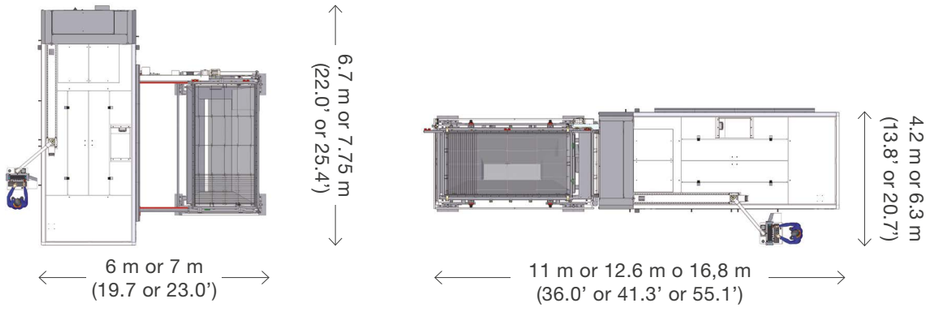
Technical characteristics			
Max. speed X and Y	140 m/min (5512 ipm)		
Max. speed XY	196 m/min (7716 ipm)		
Max. acceleration XY	10 m/s² (394”/s²)		
Accuracy	± 0.05 mm (± .002”)		
Repeatability	± 0.03 mm (± .001”)		
Standard materials	mild steel - stainless steel - aluminium - copper - brass		

METAL SHEET laser cutting			
Axis X	3,100 mm - 4,100 mm - 6,100 mm (122” - 161” - 240”)		
Axis Y	1,550 mm - 2,050 mm (61” - 81”)		
Axis Z	150 mm (6”)		
Nominal sheet dimensions	3,000 x 1,500 mm (118” x 59”)	4,000 x 2,000 mm (157” x 79”)	6,000 x 2,000 mm (236” x 79”)
Max. weight on pallet	900 Kg (1,984 lbs)	1,600 kg (3,527 lbs)	2,400 kg (5,291 lbs)
Machine weight (LS5)	12,200 kg (26,896 lbs)	16,200 kg (35,715 lbs)	21,200 kg (46,738 lbs)

TUBE laser cutting	
Round tube	min. 12 mm - max. 120 mm (min .47” - 4.72”)
Square tube	min. 12 x 12 mm - max. 100 x 100 mm (min. .47” x .47” - max. 3.94” x 3.94”)
Rectangular, flat, oval, semi-flat-oval tube	min. 10 x 12 mm - max. 120 x 70 mm (min. .39” x .47” - max. 4.72” x 2.76”)
Special section profiles	corner profiles up to 50 mm x 50 mm x 5 mm (2.0” x 2.0” x .2”) and UPN up to 80 mm (3.1”)
Processable bar length	min. 3.2 m - max 6.5 m or max. 8.5 m (min. 126” - max. 256” o max. 335”)
Processable tube weight	13.5 kg/m (9.1lbs/ft.)
Bundle loading system capacity	4.000 kg (8,818 lbs)
Unload length	3.5 - 4.5 m (11.5’ x 14.8’)
Machine weight (LC5) 3,000 mm x 1,500 mm (118” x 59”)	21,650 kg (47,730 lbs)

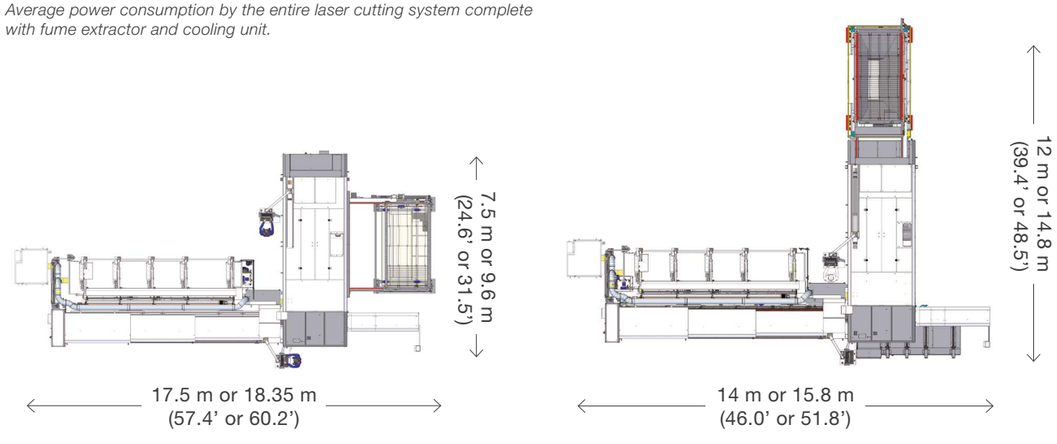
LS5						
Laser source	**3 kW**	**4 kW**	**6 kW**	**8 kW**	**10 kW**	**12 kW**
Average power consumption during production	17 kW	20 kW	26 kW	32 kW	38 kW	44 kW

Average power consumption by the entire laser cutting system complete with fume extractor and cooling unit.



LC5						
Laser source	**3 kW**	**4 kW**	**6 kW**	**8 kW**	**10 kW**	**12 kW**
Average power consumption during production	24 kW	27 kW	33 kW	39 kW	45 kW	51 kW

Average power consumption by the entire laser cutting system complete with fume extractor and cooling unit.



CE Features, weights, dimensions, capacities and performances of the machines are not binding and may be subject to change without notice. Pictures are for demonstration purpose only.

LASER SHEET CUTTING

bending
end-forming
sawing, deburring and washing
cutting and end-machining
lasertube
handling
manufacturing cell
process control software

Quality Management System
n° 50100013170
TÜV SÜD ISO 9001

FST.ES.INT.REV. 04/22

BLM GROUP

ADIGE-SYS

ADIGE-SYS S.P.A.

viale venezia, 84B
38056 levico t. (tn), Italy
tel. +39 0461 729300
email: sales@adigesys.it
www.blmgroup.com