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SHEET & TUBE LASER SYSTEM LC5

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BLM GROUP

LC5

Automatic tube cutting

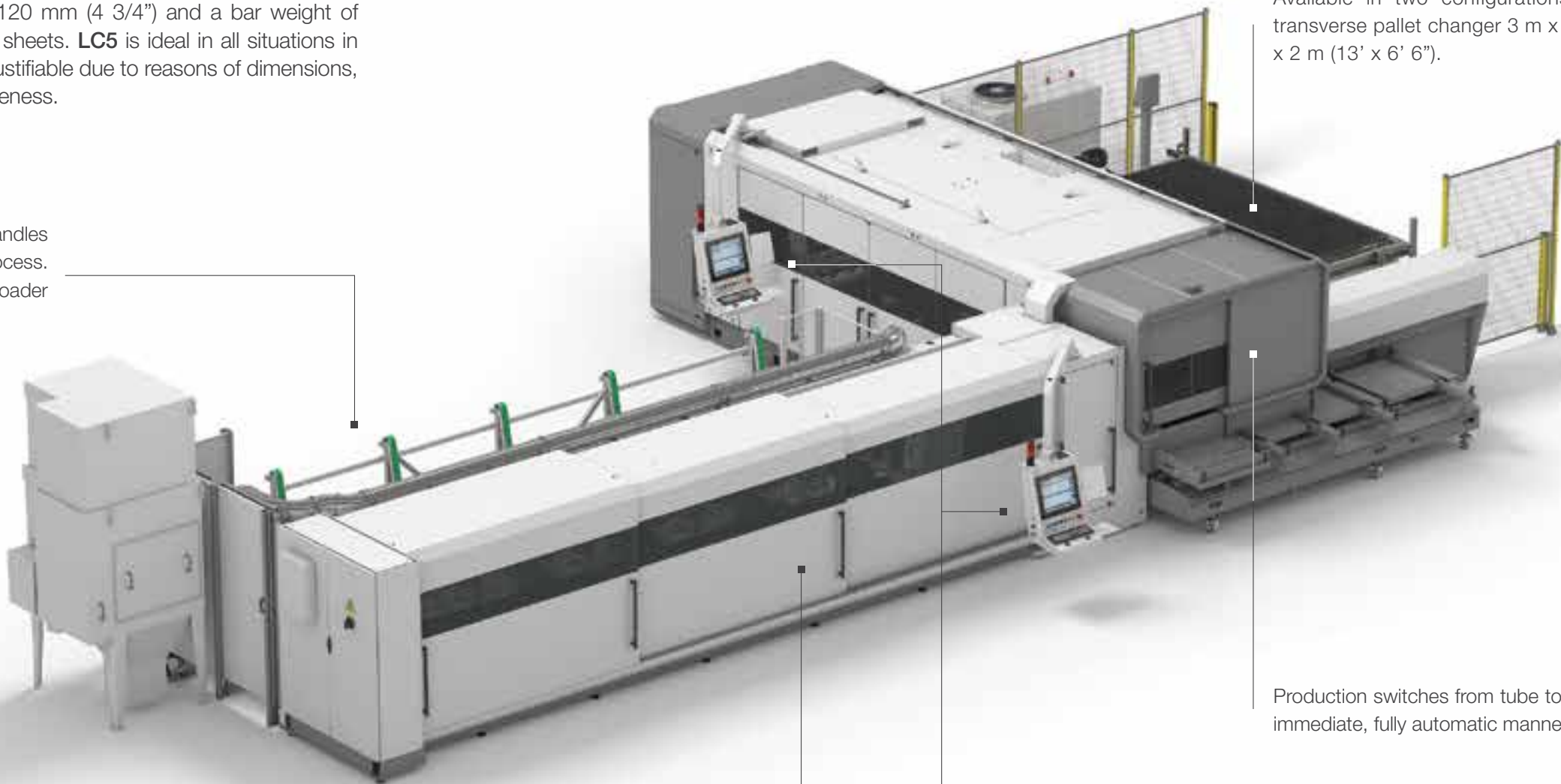
Integrating the tube cutting module expands system potentials to the maximum: a single laser source and a single cutting head are capable of switching from sheet to tube processing (and vice versa) immediately, automatically and without needing re-tooling. In sheet & tube configuration, the **LC5** can process round, square, rectangular, oval shaped tubes up to an inscribed diameter of 120 mm (4 3/4") and a bar weight of up to 13.5 kg/m (100 lb/ft) in addition to metal sheets. **LC5** is ideal in all situations in which installing two separate systems is hardly justifiable due to reasons of dimensions, production volumes or more simply cost-effectiveness.

The loader separates the tube from the bundle and handles it without scratching right up to the end of cutting process. The next tube is always ready to be loaded on the loader to minimize the tube loading time.

LC5

- tube <> plate immediate switch
- automatic tube bundle loader
- automatic unloading
- scrap separation
- BLM GROUP 3D graphic CAD/CAM
- tidy collection solutions

Available in two configurations with longitudinal or transverse pallet changer 3 m x 1.5 m (10' x 5') or 4 m x 2 m (13' x 6' 6").



Production switches from tube to sheet and vice versa in immediate, fully automatic manner. No re-tooling needed.

Two separate 19" touch screen consoles; one on sheet cutting side and one on tube cutting side.

Access to the tube processing line is facilitated by wide opening doors. This is very convenient for manual loading of single tube whenever required.



LC5

Solid experience



SCRAP COLLECTION

Tube machining scrap is accumulated in the box arranged near the operator console.

Tube loading

The tube being cut is supported all along its length that limits the sagging and sideways movement during rotation. This guarantees higher geometrical accuracy of cut components. The tube is gripped by the rear chuck with selfcentering jaws.

The closing of the jaws can be adjusted to suit the wall thickness and minimize the deformation.

Part unloading

Parts up to 4500 mm (15') length can be unloaded in controlled manner on the front side of the unloader. Various collection options are available to facilitate part separation. These include a part collection bench with integrated chain drives.



LC5

Ergonomics

Efficient fumes extraction

Four wide openings under the pallet in the working area are provided to ensure optimal extraction of the fumes and dust generated during cutting operations. The mechanical design of the pallet ensures maximum suction efficiency thus keeping the cutting area free of fumes and cutting dust.

Easy scrap management

Four scrap collection trays positioned under the cutting area and accessible from the operator side are used to collect the scrap. These trays are mounted on wheels for easy handling.

Front openings

Large front windows provide convenient viewing of the entire pallet working area and allow to take action promptly for checks on production.

Visibility and control

The position of the large 19" touch screen can be adjusted as desired along the front side of the machine to improve visibility and cutting process control.



COMPACT DIMENSIONS

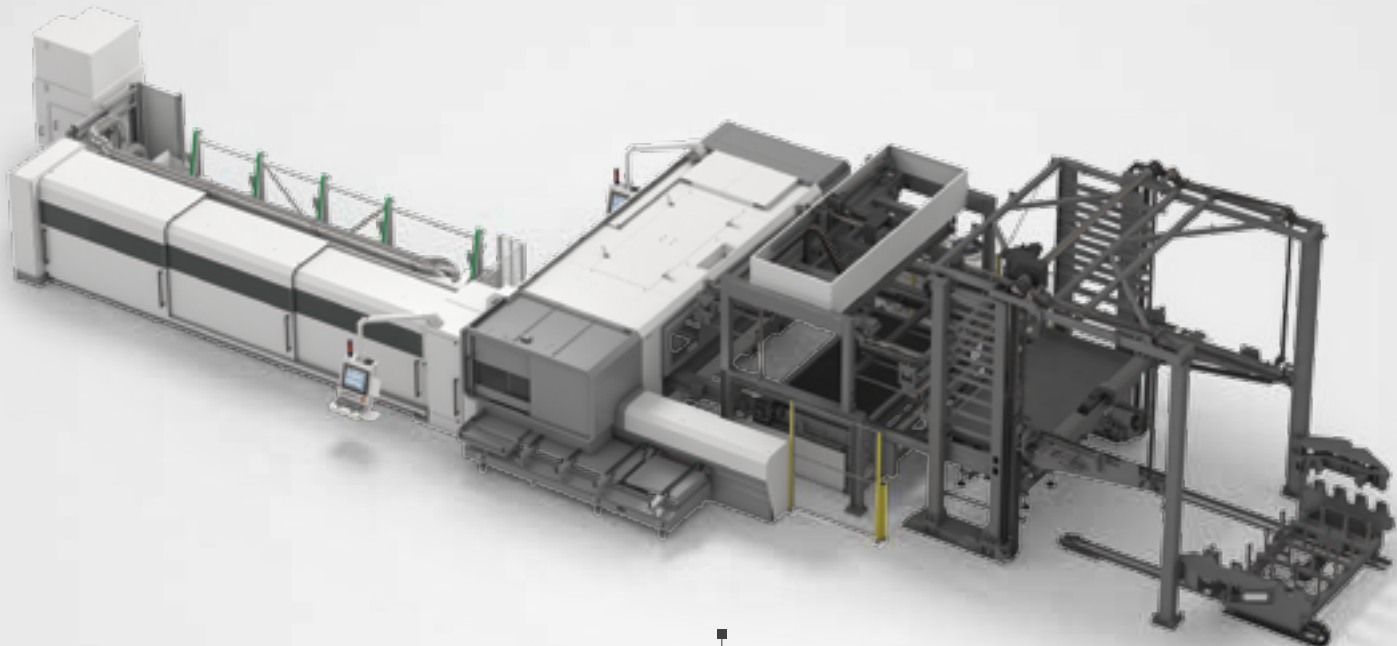
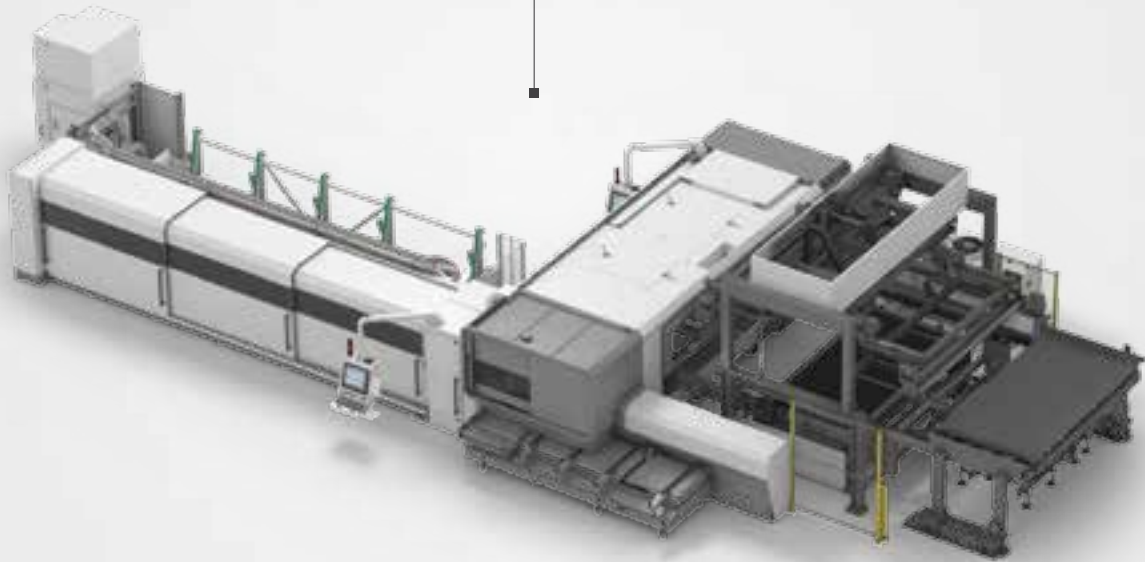
The machine is compact and integrates all electric components onboard to minimise space and installation time.



LC5

Expandable

An expansion option is provided by the sheet loading and processed sheet pallet changer system. The automatic loading and unloading system can be integrated at a later time and is available for all the machine configurations.



Further automation and flexibility can be achieved by adding one or two sheet storage towers on loading and unloading side. This opens the way to fully automatic production.

LC5

CO₂ or fiber: take your pick!

Fiber laser technology opens the way for new opportunities by allowing to process high-reflecting materials.



Laser cutting applied to tubes allows for accurate jobs and precise fittings which simplify the construction of frames.

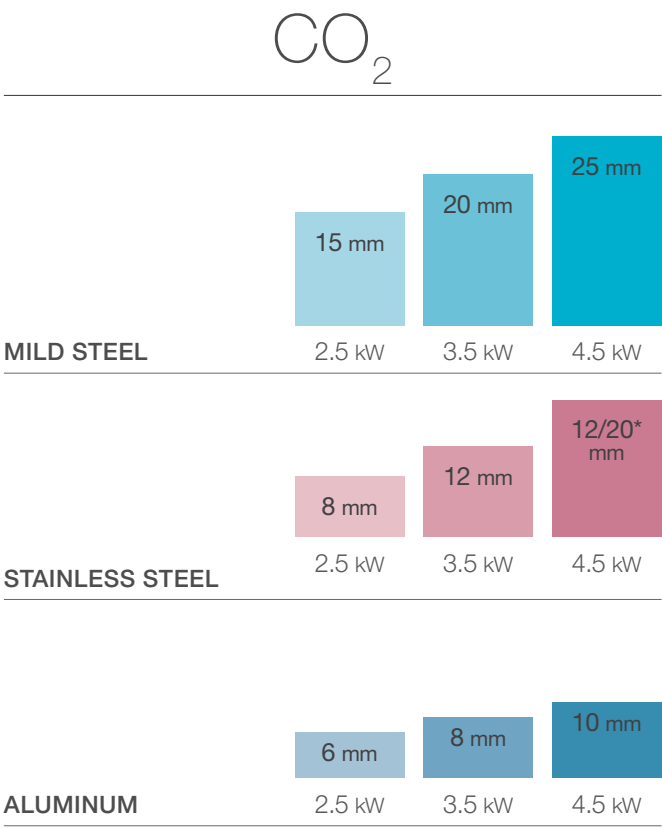
LC5 can be equipped with either a CO₂ laser source with a power of up to 4.5 kW or a fiber laser source with power up to 5 kW. The fiber source is advantageous for cutting highreflecting materials (brass, copper) and for more effective aluminum processing. For nitrogen cutting of thin stainless steel, fiber laser technology provides better performance in terms of absolute cutting speed.

On the other hand, for thicker sheets, CO₂ technology is preferable and provides better performance in terms of finish of the cut surface. The cutting process

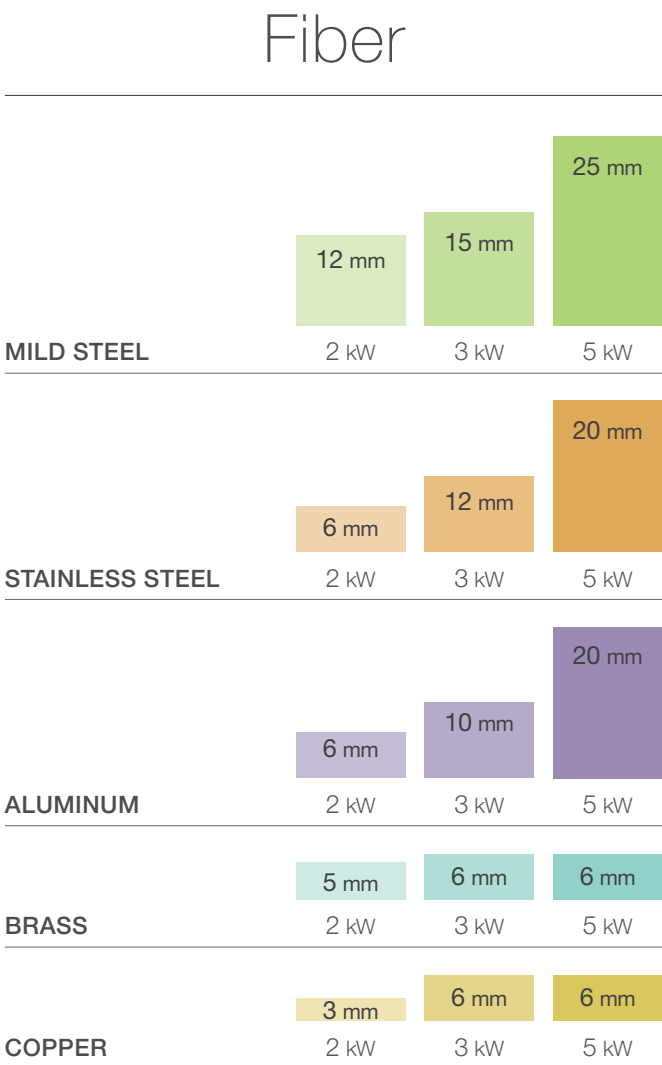
is controlled by sensors which monitor all the main parameters on both the CO₂ source and fiber versions. Focus is regulated by a servo mechanism fitted inside the cutting head.

On fiber versions, the lens protection window has integrated sensors for status monitoring. A warning will appear on the operator console if the protection window gets dirty or damaged. In this way the operator can take corrective action (cleaning or replacement) and thus maintain the cutting quality on one side and save time and money on the other side by preventing eventual further damage.

MAX. THICKNESS



* plasma quality



TECHNOLOGY / SOFTWARE

From design to production in 1 click

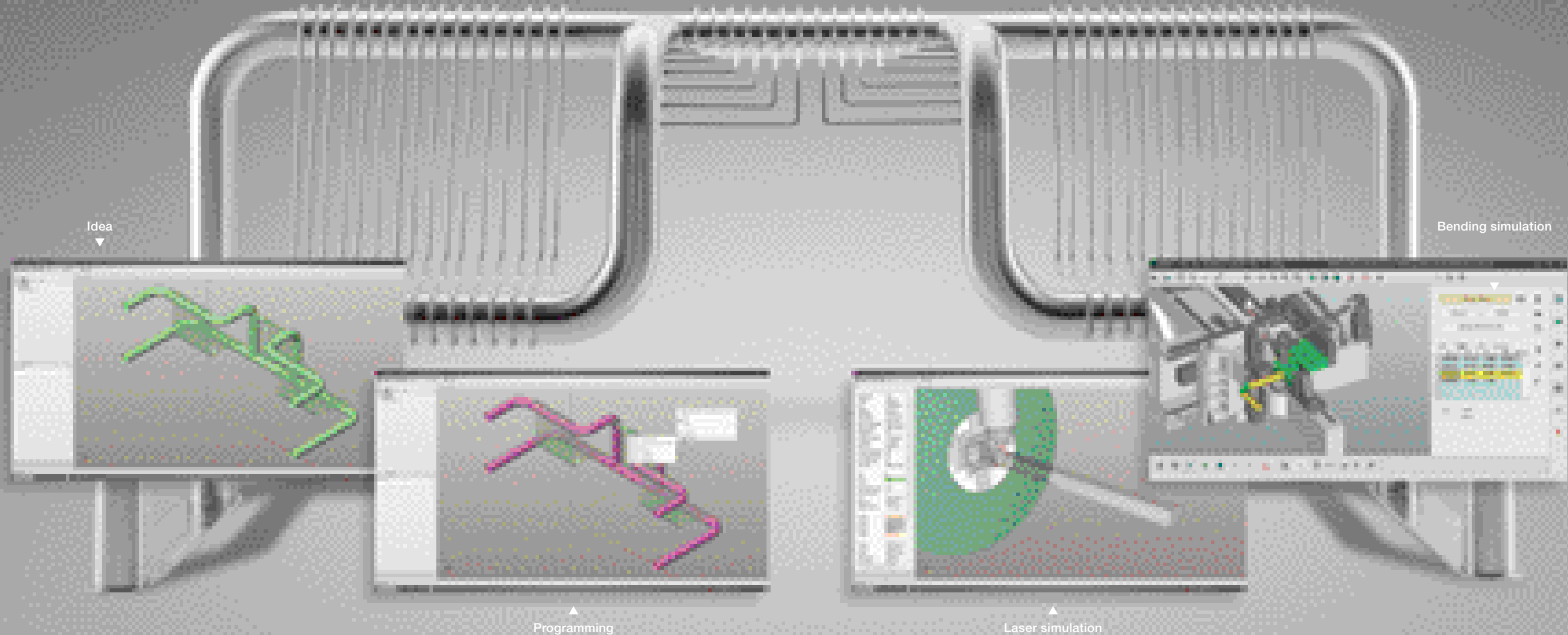


Software is the core element around which we have built an efficient and effective real time production process.
BLMelements is the single point on which we integrate all of our capabilities:
- it is a completely new CAD/CAM environment that



is able to not only to program a single machine but to manage multiple technologies (laser cutting, bending, sawing)
- it has an accurate simulation environment for quoting and production planning
- it provides a real time production-scheduling /

monitoring environment for all machine types, that runs on mobile devices (smartphones and others) and that allows you to have an eye on the progress and efficiency of the whole process.



NUMERICAL CONTROL AND AUTOMATION ON BOARD

LC5 fits the most recent Siemens Sinamics Numerical Control (*Operate interface*) Solution: picking top of the range components means guaranteeing better usability and a higher degree of reliability over time. The system may be connected to the company LAN to exchange data and allows quick and easy production setup and connects in secure manner to the Internet (VPN) in order to receive remote assistance in case of need.



LC5

Technical specifications

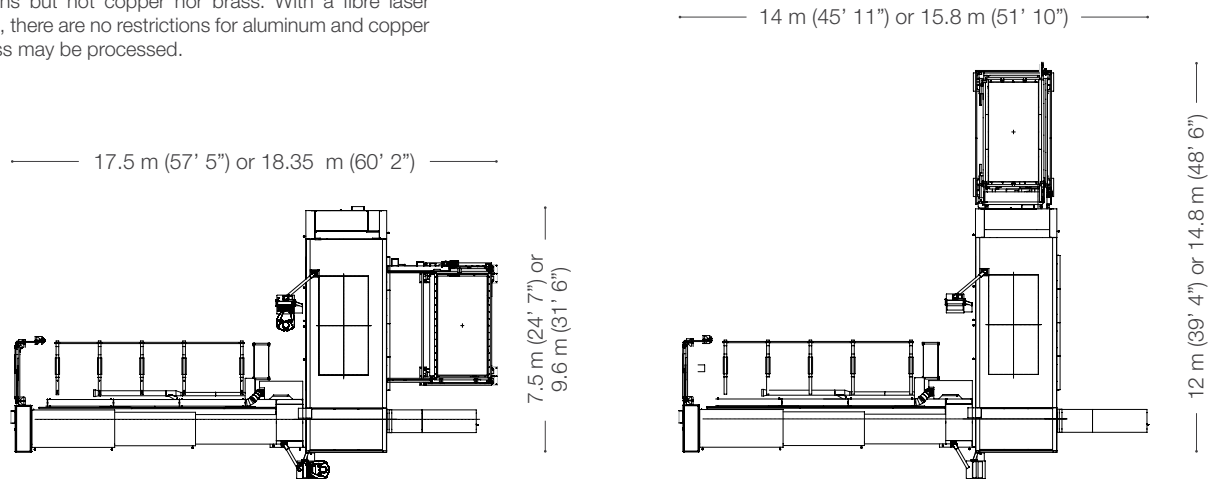
TUBE WORKING RANGE:

Round tube	min. 12 mm (0.5") - max 120 mm (4 3/4")
Square tubes	min. 12 x 12 mm (0.5" x 0.5") - max 100 x 100 mm (4" x 4")
Rectangular, flat, oval, semi-flat-oval tube	min. 10 x 12 mm (0.4" x 0.5") - max 120 x 70 mm (4 3/4" x 2 3/4")
Loadable bar length	min. 3.2 m (10') - max 6.5 m (21')
Bundle loading system capacity	4000 kg (8820 lb)
Unload length	4.5 m (15')
Standard materials	steel - stainless steel - aluminum* - copper* - brass*

SHEET WORKING AREA:

Axis X	3000 mm - 4000 mm (10' - 13')
Axis Y	1500 mm - 2000 mm (5' - 6' 6")
Axis Z	150 mm (6")
Max. axial speed	140 m/min
Max. XY speed	196 m/min
Accuracy	0.05 mm
Repeatability	0.03 mm
Standard materials	steel - stainless steel - aluminum* - copper* - brass*

* the CO₂ source allows to cut aluminum with some restrictions but not copper nor brass. With a fibre laser machine, there are no restrictions for aluminum and copper and brass may be processed.



☞ Features, weights, measures, capacities and machine performance descriptions are not binding and may be changed without prior notice. The photographs are only examples.

COMBINED SHEET AND TUBE LASER CUTTING

tube bending
endforming
sawing, deburring and washing
cutting and end machining
handling
manufacturing cells
process control software



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