

QMA Shaping ideas

Shappiness
ideas



WHO WE ARE

OLMA, more than 70 years of technology dedicated to sheet metal working

OLMA (Officina Lazzati Macchi Abbiategrasso) is founded in Abbiategrasso in 1946 by Lazzati Angelo and Macchi Alberto, as a mechanical workshop.

The scenario is that one of the post-world war: the cannon shafts become forming rolls used in the manufacturing of shutters and rolling shutters. The roll forming machines represent the first real product in which OLMA specializes, from design to production.

In the following years OLMA rides the wave of the 20th century economic boom by differentiating the product range: lines for the production of trapezoidal and corrugated profiles, plants for the production of welded pipes and transfer lines for the production of components for household appliance sector are also designed and manufactured in addition to the roll forming machines. OLMA plant high performances promote the company success, a worldwide increasing high-sounding name in the sector of manufacturers of customized plants for sheet metal cold working.

The drastically increased demand for household appliances is a turning point for OLMA. The multinationals that dominate the white sector allocate more and more resources to investments aimed at the purchase of production lines. This macroeconomic scenario is reflecting in OLMA specialization in the production of lines for the manufacturing of bent sheet metal panels for refrigerators, dishwashers, washing machines, freezers, kitchens and water heaters.

The unceasingly increasing numbers, together with the need to produce constantly ever-changing appliances, make this sector a leading market for OLMA to the present day.

Experience, precision, quality, flexibility, listening to Customers are just some of the key competences that allow the company to best suit Customer needs, keeping up with technical solutions and productivity requirements. Olma know-how, taking advantage of this experience, enters new markets in the sector of sheet metal working.

In 2015 the product range widens: the first panel bender, a flexible bending center with a revolutionary bending method, is born. OLMA enters therefore the world of machine tool mass production, assigning the definition of the product range to a highly skilled, specialized team. Different machinery sizes that meet end user demands, from subcontract processing to specialized production.

More than 70 years of history that tells our will of keeping up with the market growth with cutting-edge solutions.

WHAT WE DO

Tailor-made and 100% made in italy cutting-edge machinery

OLMA core business consists of "Tailor-made" plant manufacturing, just like a tailored suit. This dedicated approaching is based on a careful analysis of Customer needs, to propose them machinery that best "dresses" their requirements.

A highly customized offer that starts from the analysis of some information, such as type of finished product, material used, thickness, annual productivity, up to the design and construction of a plant. OLMA team consists of engineers, who closely follow the End user during all design phases, applying cutting-edge solutions for mechanics and electronics.

Machinery entirely designed and manufactured in Italy is a further strength asset in OLMA. A real true guarantee for Customers, which is covering:

- quality of materials and components
- wide range of product customization

OLMA combines to the value of Made in Italy its commitment to environmental protection: if the Customer allows it, OLMA prefers the use of electrical solutions, renouncing to the hydraulic ones as much as possible.



MISSION

“We give shape to ideas”

OLMA's daily commitment is to turn ideas into concrete projects.

Cutting-edge technological solutions to deliver high performance, maximizing productivity and improving profitability are proposed by a careful analysis of Customer need.

Our success is based on five main values, which are the reasons why, over more than 70 years of history, hundreds of Customers have chosen OLMA as a trusted partner:

Technological innovation

Commitment in the continuous research to develop cutting edge systems, improving our solutions.

Passion

People are the real key to the company success. High quality standards are guaranteed by the passion of each member of the team, wisely combined with experience and commitment.

Listening

The performance of a machinery is determined by listening to Customer needs carefully, during all phases, from design to testing, until the final construction is made. A one-to-one approach, which is part of OLMA DNA.

Professional skill

High-performance machineries combined with professional skills and experience of a team of qualified and highly specialized engineers, always ready to support the Customers, anticipating their expectations.

Timeliness

Team flexibility, which ensures prompt reaction to any Customer need.





INDUSTRY 4.0

Interconnected company integrated solutions

Industry 4.0 means implementation in automation by focusing on new generation machines with advanced levels of sophistication.

OLMA machines are "Industry 4.0 ready", since they:

- meet the criteria related to the analysis of production systems
- increase company efficiency
- improve working conditions
- increase the productivity of the plants
- promote cooperation among all the performers involved in the production process, i.e. operator, machines and tools.

OLMA software provides analysis of parameters and algorithms, such as hardness, thickness and spring-back of materials. The interpretation of these data allows the machine to adapt automatically itself, and in cycle, to the correct processing required by the processed material.

OLMA products, equipped with augmented reality supported controls, are always remote connected for machine performance monitoring, to prevent any manufacturing error or breakdown.

CUSTOMIZED PLANTS

Sheet metal working tailor made designs

More than 70 years of worldwide experience, ranks OLMA among the world leaders in the supply of automatic plants for sheet metal cold working.

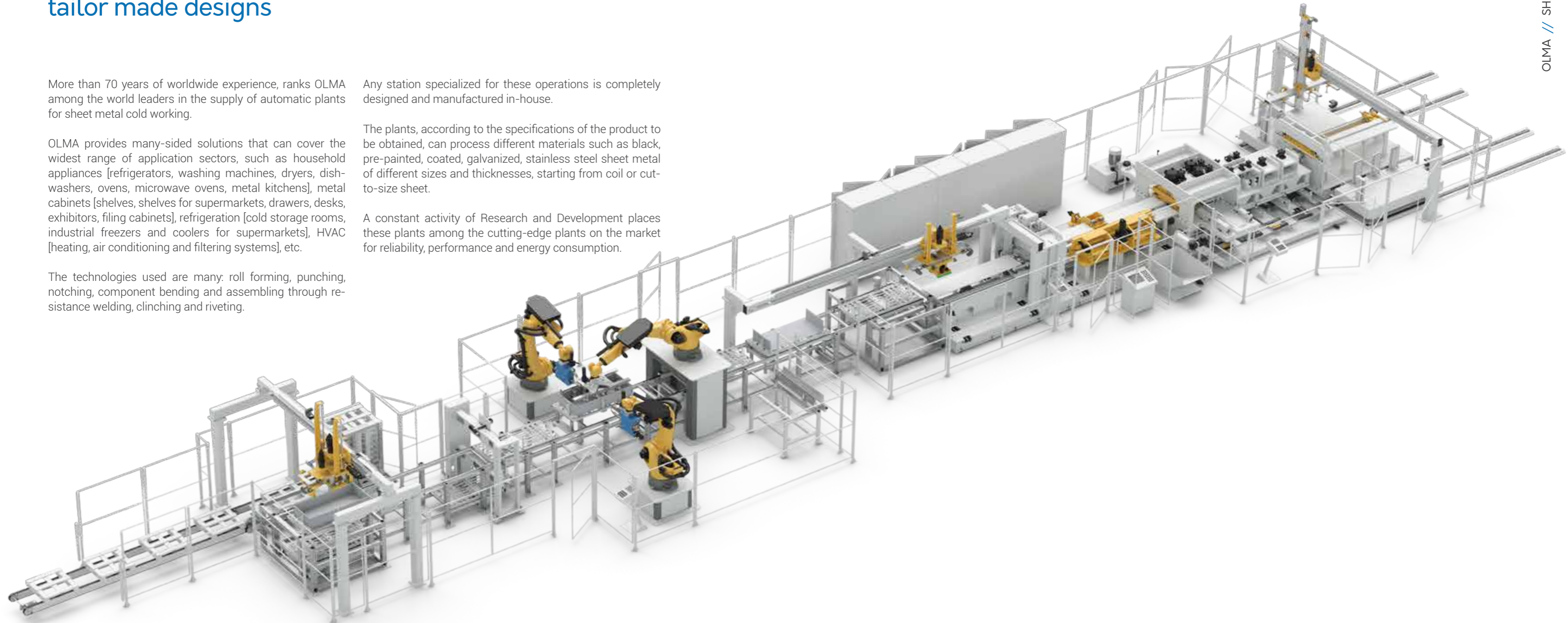
OLMA provides many-sided solutions that can cover the widest range of application sectors, such as household appliances [refrigerators, washing machines, dryers, dish-washers, ovens, microwave ovens, metal kitchens], metal cabinets [shelves, shelves for supermarkets, drawers, desks, exhibitors, filing cabinets], refrigeration [cold storage rooms, industrial freezers and coolers for supermarkets], HVAC [heating, air conditioning and filtering systems], etc.

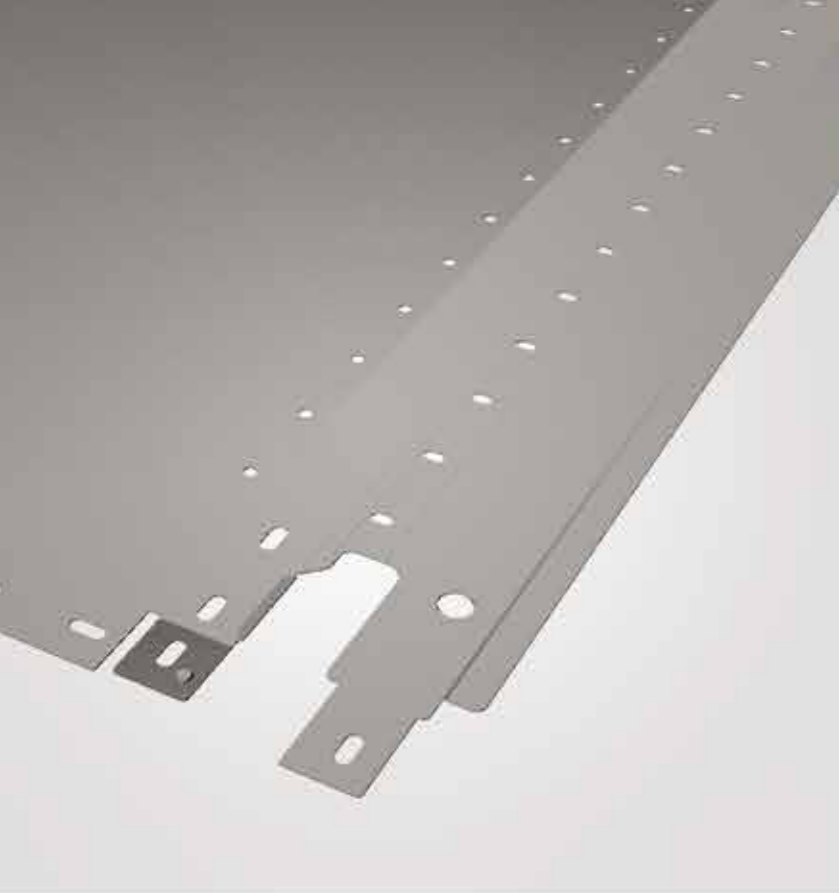
The technologies used are many: roll forming, punching, notching, component bending and assembling through resistance welding, clinching and riveting.

Any station specialized for these operations is completely designed and manufactured in-house.

The plants, according to the specifications of the product to be obtained, can process different materials such as black, pre-painted, coated, galvanized, stainless steel sheet metal of different sizes and thicknesses, starting from coil or cut-to-size sheet.

A constant activity of Research and Development places these plants among the cutting-edge plants on the market for reliability, performance and energy consumption.





Notching



Flanging



Bending



Clinching



Punching



Embossing

OLMA PANEL BENDING CENTERS

Cutting-edge bending centers

OLMA panel bending centers have been developed on the basis of over 70 years of experience acquired in the design and manufacture of automatic plants for sheet metal cold working.

From this experience were drawn all the notions needed to switch from bespoke machines to a precise production range, highly flexible bending centers ready for bending process of all sheet types of ferrous materials, pre-painted sheet metal, stainless steel, aluminum and copper.





OLMA METHOD

The revolution in bending process

OLMA panel bending centers allow, with their revolutionary sheet metal bending system, the realization of bends of any type, from the simplest to the most complex bend, by using the upper and lower bender movement.

Such bender movement principle, which is an OLMA patent, gives exceptional features and uniqueness to these machines, real unconventional solutions, compared to those already existing on the traditional panel bending market.

The innovative principle of this patent concerns: upper bender and lower bender are individually operated by an electromechanical system with the interpolation of the two movements X and Y with respect to an origin defined by the section of the profile to be obtained.



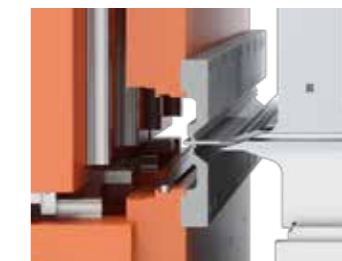
With this positioning of the benders it is possible to obtain a double bending of the edge with a single operation.



With this positioning of the benders it is possible to achieve a realization with big radii.



With this positioning of the benders it is possible to obtain a bending height of 300 mm without resorting to any further operation.



With this positioning of the benders it is possible to obtain a double thickness flattening in cycle.



With this positioning of the benders it is possible to obtain a bending of big radii with double thickness, without interrupting the cycle.

OLMA TECHNOLOGY

Competitive advantages

Two autonomous benders

This solution allows to program the bending cycle by optimizing the positioning and approach movement of the benders, minimizing the strokes for approach to the material, with a consequent improvement in cycle time and lower operating costs.

Maximum bending height

Thanks to the autonomous and decoupled moving of the two benders, bending heights of up to 300 mm can be achieved.

100% Electric

Energy consumption is reduced to the bare minimum by using electromechanical actuators, contributing to machine running cost minimization and environmental protection.

Bend a double thickness by the benders

The bending operation of a double thickness is a very delicate operation that OLMA panel bending centers can perform with unmatched precision. The flattening operation is achievable by the same benders through a movement towards each other, and holding the workpiece tightly by the pressing of the blank holder.

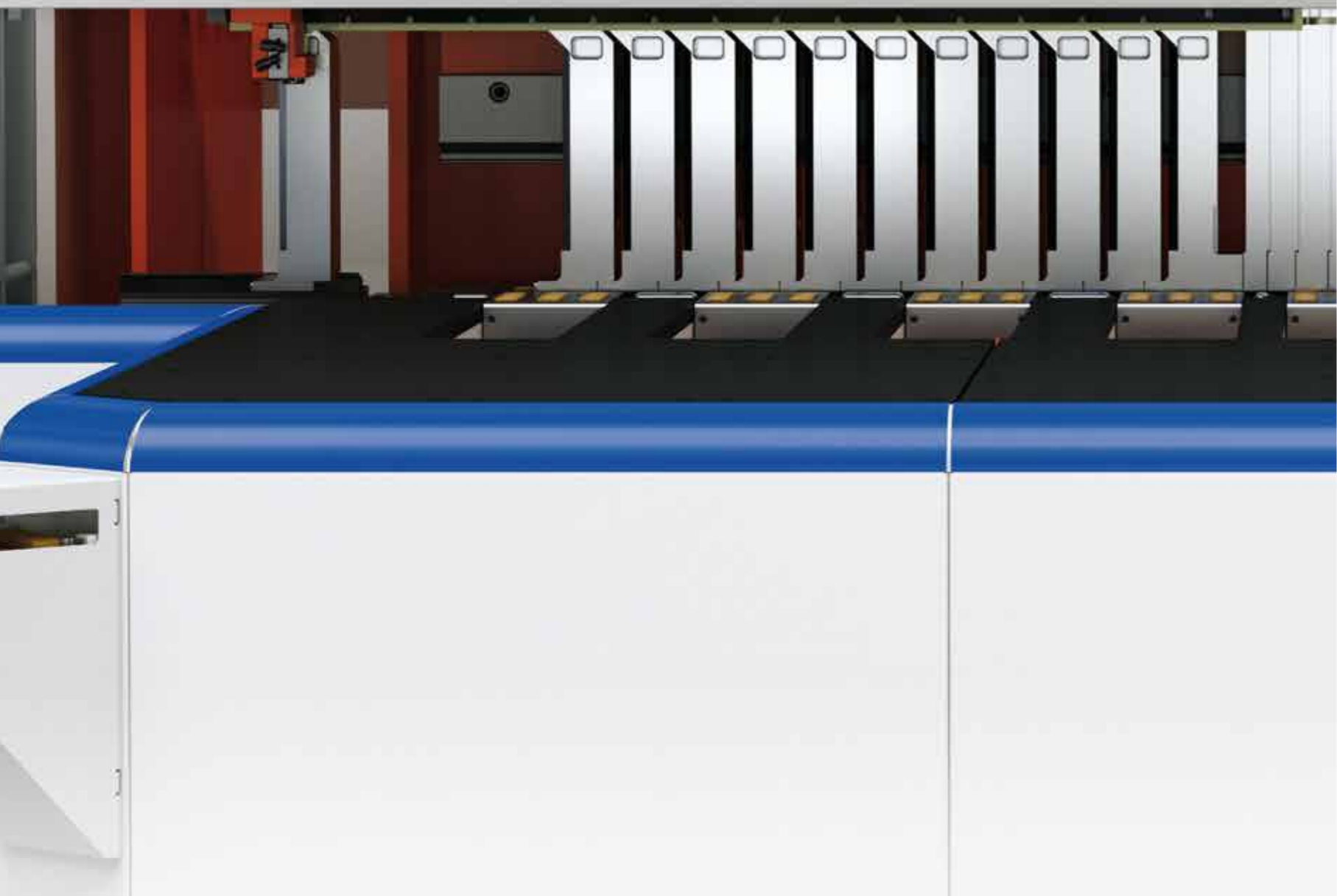
Flexibility and simplicity of programming

OLMA panel bending center managing software is made in-home, with the purpose of making the setting of a bending program as easy and intuitive as possible.

Noiseless

the use of electromechanics instead of hydraulics ensures low noise levels, as well as a reduced ground dynamic effect.





MACHINE RANGE

Semiautomatic panel bending center

This OLMA entry-level solution requires the interaction between operator and machine, to perform all required bending operations. The piece must be manually rotated by the operator according to the sequence of the bends to be carried out, as by OLMA software interpretation.

This solution offers a cheaper initial investment, with the possibility of a future implementation with a manipulator for automatic piece rotation. Thanks to the automatic tool changeover, the sectors of which the blank holder is consisted, can be arranged according to the type of bend to be carried out.

After the carrying out of the bend, an angle checking device that checks the correct width is activated. It is thanks to this device if even the first piece of a series is perfect.

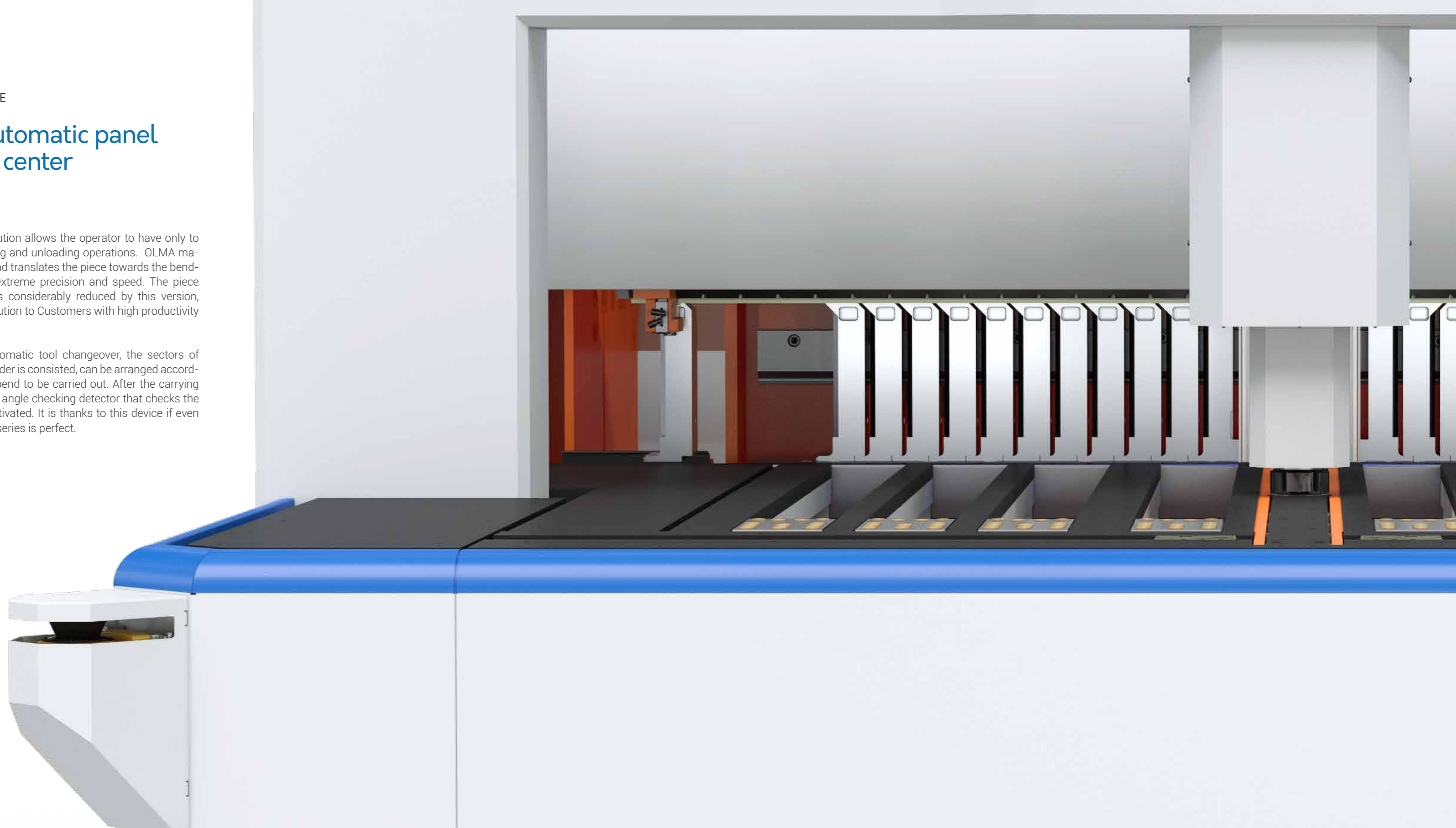


MACHINE RANGE

100% Automatic panel bending center

The automatic solution allows the operator to have only to do the piece loading and unloading operations. OLMA manipulator rotates and translates the piece towards the bending position with extreme precision and speed. The piece production cycle is considerably reduced by this version, which is a valid solution to Customers with high productivity requirements.

Thanks to the automatic tool changeover, the sectors of which the blank holder is consisted, can be arranged according to the type of bend to be carried out. After the carrying out of the bend, an angle checking detector that checks the correct width is activated. It is thanks to this device if even the first piece of a series is perfect.



PRODUCT RANGE

ATbend

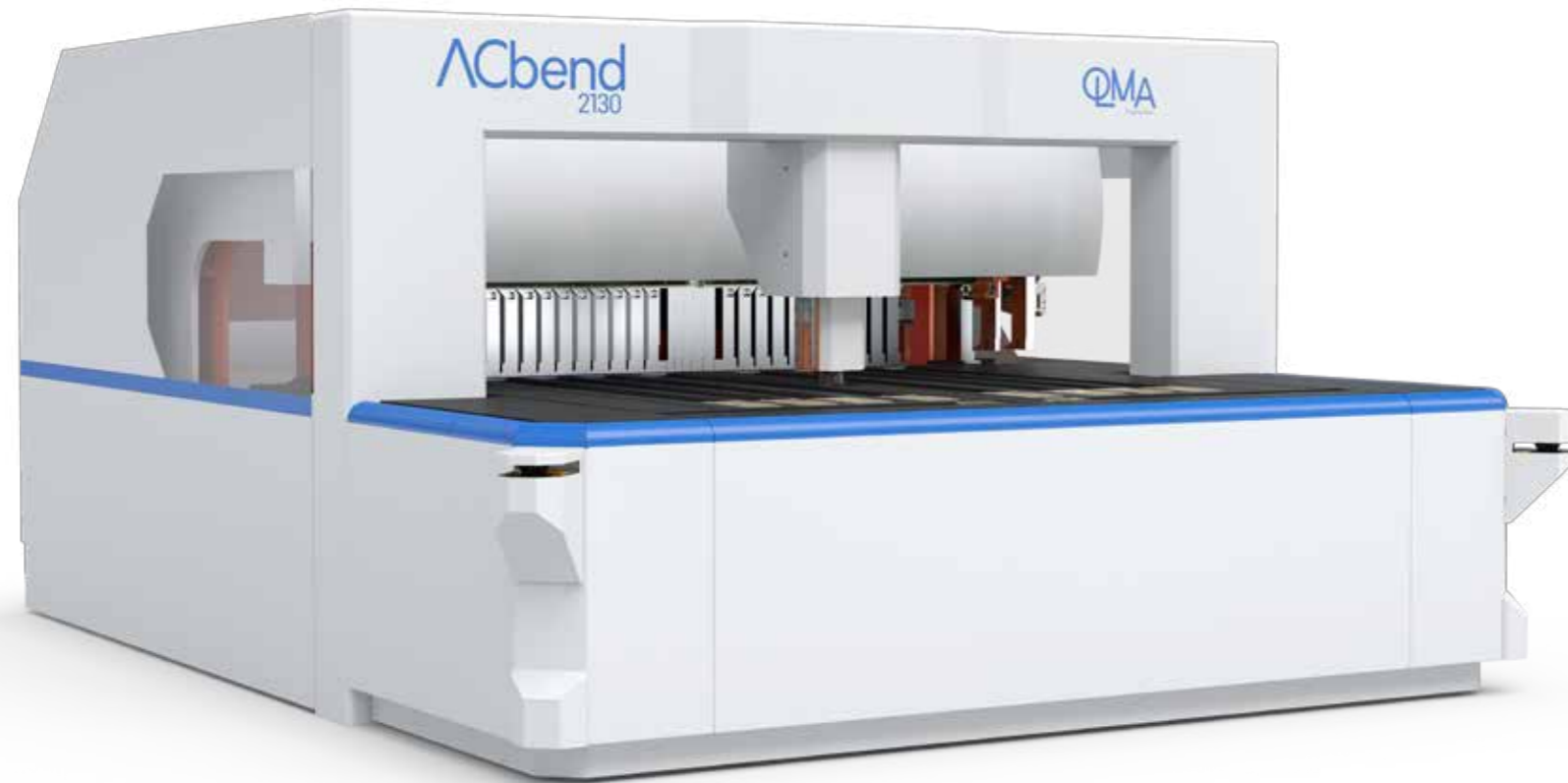


Technical data

Maximum sheet entry length (mm)	1900
Maximum sheet entry width (mm)	1500
Maximum rotatable diagonal (mm)	2250
Maximum blade bending force (kN)	120
Maximum bending length (mm)	1650
Maximum bending height - 4 sides (mm)	300
Maximum bending height 1 side (mm)	300
Dimension of downward bending	30
Dimension of negative bending	30
Dimension of lateral bending	30
Minimum thickness (mm)	0,5
Maximum thickness (mm) - Steel	2
Maximum thickness (mm) - Stainless steel	1,5
Maximum thickness (mm) - Aluminium	2
Minimum bending radius (mm)	0,5
Electrical power supply: average absorbed power	6,8 kW
Voltage	400 V
Compressed air: average consumption	200 NI/min
Average noise	70 dB
Weight (Ton)	20

PRODUCT RANGE

ACbend

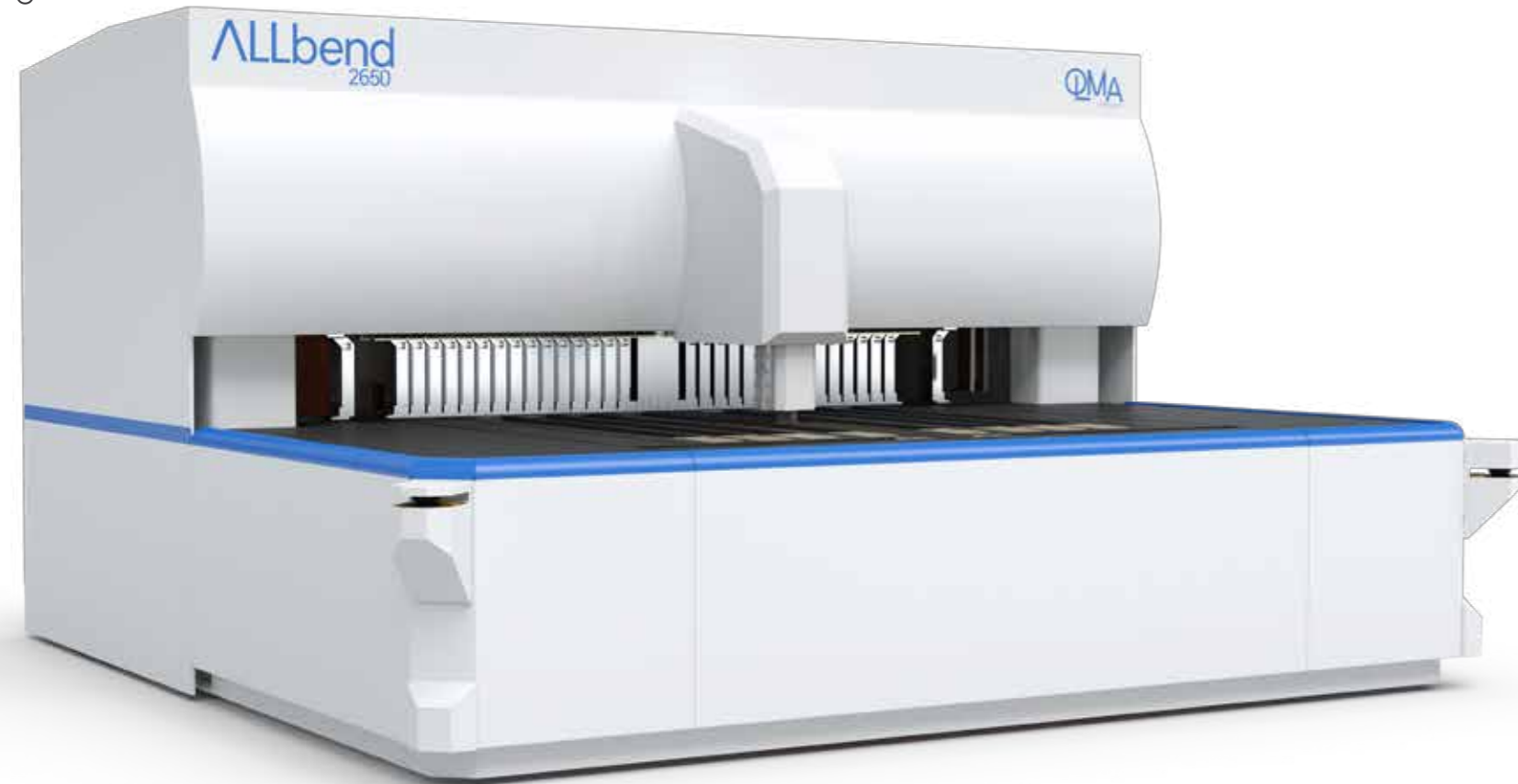


Technical data

Maximum sheet entry length (mm)	2350
Maximum sheet entry width (mm)	1875
Maximum rotatable diagonal (mm)	2780
Maximum blade bending force (kN)	120
Maximum bending length (mm)	2130
Maximum bending height - 4 sides (mm)	300
Maximum bending height - 1 side (mm)	340
Dimension of downward bending	55
Dimension of negative bending	45
Dimension of lateral bending	35
Minimum thickness (mm)	0,5
Maximum thickness (mm) - Steel	2
Maximum thickness (mm) - Stainless steel	1,5
Maximum thickness (mm) - Aluminium	2,5
Minimum bending radius (mm)	0,5
Electrical power supply: average absorbed power	6,8 kW
Voltage	400 V
Compressed air: average consumption	200 NI/min
Average noise	70 dB
Weight (Ton)	28

PRODUCT RANGE

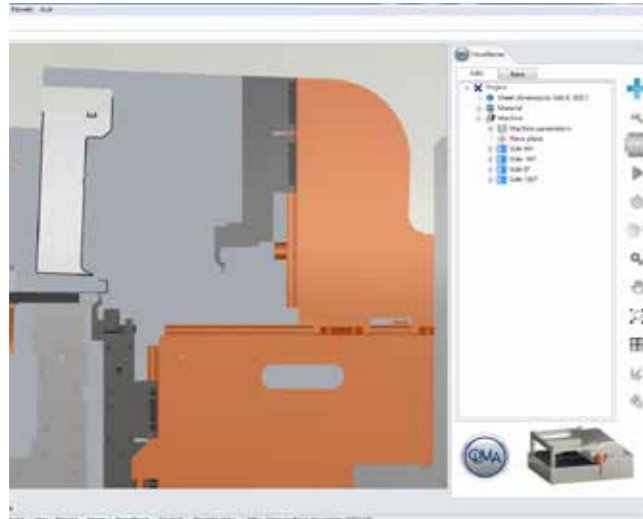
ALLbend



Technical data

Maximum sheet entry length (mm)	3000
Maximum sheet entry width (mm)	2000
Maximum rotatable diagonal (mm)	4030
Maximum blade bending force (kN)	200
Maximum bending length (mm)	2650
Maximum bending height - 4 sides (mm)	300
Maximum bending height - 1 side (mm)	350
Dimension of downward bending	55
Dimension of negative bending	45
Dimension of lateral bending	35
Minimum thickness (mm)	0,5
Maximum thickness (mm) - Steel	2,5
Maximum thickness (mm) - Stainless steel	2
Maximum thickness (mm) - Aluminium	3
Minimum bending radius (mm)	0,5
Electrical power supply: average absorbed power	8,7 kW
Voltage	400 V
Compressed air: average consumption	200 NI/min
Average noise	70 dB
Weight (Ton)	34

SYSTEM SOFTWARE

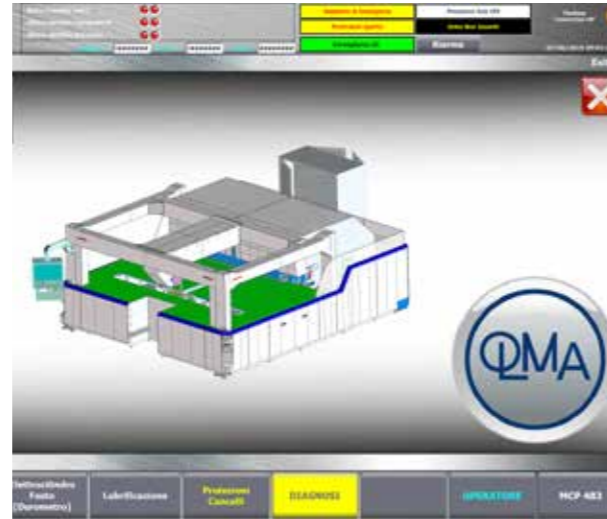


OLMA Visual bender

OLMA software exploits the potentialities of a CAD program for interpretation and extraction of the peculiarities of the 3D model to be produced. Once the model has been imported, its respective bending program is generated.

With this operation any possible collision is detected and considered, calculating at the same time the cycle time needed for model production. A bending program simulation can also be performed.

OLMA software provides the user with the possibility of following a guided procedure for the creation of 3D models, which are then processed as if they had been imported. It also allows to split up a complex model into its components, to be then processed one by one.



For setting the production, the software provides a simple and intuitive interface that allows the user to generate a list of programs to be executed on the machine ("production plan"), specifying the quantity. Production on the machine is managed in a single interface; it can be implemented on different models simultaneously, defining production batches according to the Customer needs.

It is also possible to do fine adjustments to the parameters of the bending program, ensuring a finished product that meets the specifications in all situations. To allow the bending parameters to meet any possible different specifications of the material to be processed, a final angle checking detector integrates automatically itself with the theoretical parameter calculations.



OLMA Material checking detector [MCD]

OLMA panel bending centers are equipped with a small and lightweight device, and a control box with an LCD screen to calculate hardness and thickness on all metals and surfaces in just 3 seconds.

This device can display results and statistics clearly, besides store the related data. The test load is applied through a dynamometric load cell always ensuring maximum precision and reliability. MCD is used for database population of the end user, in order to achieve maximum machine flexibility.



OLMA Angle checking detector [ACD]

The different specifications of the processed material entail different elastic reactions of the bending angle. For this reason, it is possible to obtain different results in the sequence of processed sheets, although the parameters are identical. To overcome this drawback, the bending center has a laser system, which is reading the bending angle directly on the workpiece with the data set in the program. ACD intervenes at any surplus detected, by modifying the bending parameters through OLMA software self-learning function, till the set value is achieved.

The control screen of the bending center communicates the reading of the bending angle in real time, enabling the operator to decide whether to store the bending parameters or preserve the data transmitted by the self-learning software. The automatic bending angle checking detector allows the processing of materials with different mechanical features.

REALIZATIONS

The shape of our work

With a wide range of models, OLMA panel bending centers are designed to meet different production needs. They represent a revolutionary solution for many industrial sectors.



FIELDS OF APPLICATION

Where our bending technologies are used

OLMA machine automation, innovation and flexibility level means many application fields.



Metal furniture

Cabinets/wardrobes/cupboards in general, shelving, shelves for supermarkets, drawers, desks, shop display racks, filing cabinets.



Food industry

Shop display racks and vending machines for supermarkets and shops, industrial and domestic kitchens.



Refrigeration

Cold storage rooms, industrial freezers and chillers for supermarkets.



Lifts and elevators

Internal and external panels, sliding doors, false ceilings, ceiling lights, hoists.



Lighting

False ceilings with recessed lighting, ceiling lamps, lighting systems.



Household appliances

Refrigerators, washing machines, dryers, dishwashers, ovens, microwave ovens, metal cookers.



HVAC

Heating, conditioning and filtering systems.



Healthcare industry

Medical / Pharmaceutical equipment, sterilizers, boilers, refrigerators, cabinets, shelving, general structures.



Electrical cabinets

Industrial and civil cabinets, push-button panels, control desks, junction boxes.



Commercial vehicles

Furniture for portable Buildings (offices, shops), mobile cold storage rooms, cabinets, drawers.

Shappiness
ideas



Via Dante Alighieri, 55
20081 Abbiategrasso
Milano - Italia

T +39 02 946 5331
olma@olma-italy.it

www.olma-italy.it