The integration of two bending technologies creates important benefits and opens up new application possibilities

Bending with **fixed** or **variable** radii

One of the principal differences of the BLM bending system is its complete integration of two bending methods; fixed and variable radii or calendaring.

This level of integration now extends across the whole range of BLM machines, whatever type or model; any BLM bender, with bar or coil feed, can execute bends with either fixed or variable radii on the same piece in a single working programme.

Bending flexibility

The production of modern objects with very complex shapes and designs is prevalent in the furniture industry and it constantly requires new production techniques that can perform more operations in less time and increase the final quality of the component.
The solution to this problem is complete integration of the programming function, the equipment and the work cycle of the two technologies.

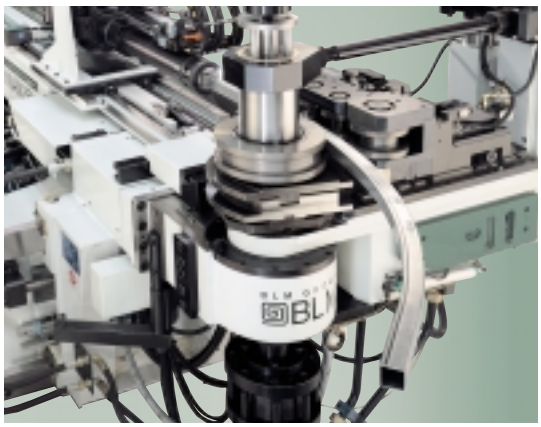
If using three interpolated axes passing the tube between the equipment, it is possible to achieve a two dimensional or three dimensional bending radius.
The same programme can determine automatically when the bend radius must be fixed and position the tube on the equipment in order to follow a very restricted radius sometimes less than 1D.
Reduction of thickness on the bend outer wall is contained to a minimum thanks to the action of a programmable thrust booster.

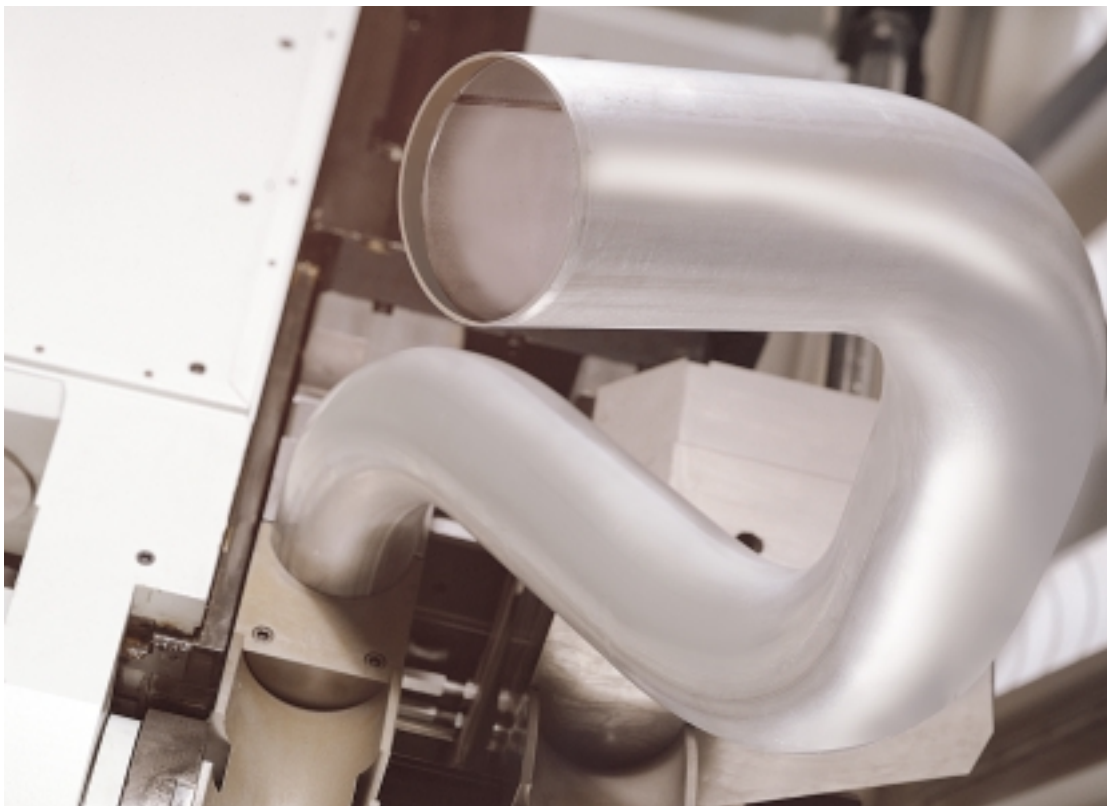
Many advantages

With this type of operation, it is possible to eliminate at least two working procedures. It reduces unloading and loading time to a minimum, does not generate work off the machine in between operations and does not create logistics problems or clutter on the production floor.
It increases part quality and ease of repetitive operations. It also improves assembly quality and increases the yield from robotic welding.

Variable radius application for automotive components.

Variable radius bending on square section tube.





Bending with integrated fixed and variable radii opens up new possibilities for large diameter tubes.

Applications are extremely varied and include round, square and rectangular tube, aluminium profiles, special asymmetric sections and range over diverse market sectors such as: automotive, furniture, agricultural machinery, the marine industry and urban architecture.

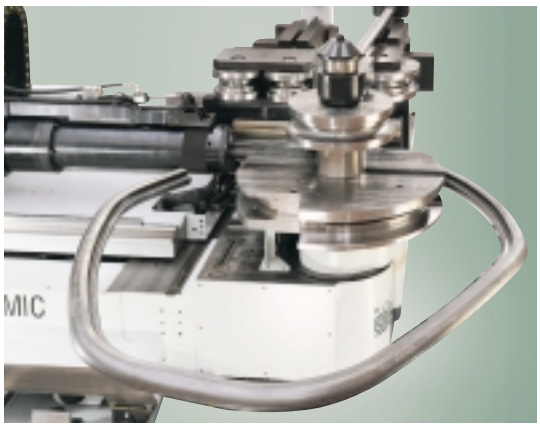
3D Graphic Simulation

CNC software is an important device for verifying program constrains and accuracy.

The system is simple and intuitive, allowing verification that the piece is performing its operations in line with the video simulation of the bending cycle with fixed and variable radii bends and with direct control of the bending program.

The CNC unit is also used as a technology database with automatic adjustment of materials usage and generation of corrections to the automatic program.

Variable radius bending of an unusual section.



Combining fixed and variable radii bending enhances creativity.