

| ENG |

BENDING WIRE BENDING RANGE

www.blmgroup.com



BLM GROUP

WIRE BENDING RANGE

Double head and single head

The range of wire applications is rapidly expanding worldwide. The flexibility and high-quality features of this technology are indispensable for an array of purposes, such as automotive parts, household appliances, indoor and outdoor furniture, equipment

for shops and supermarkets, aircraft parts, buildings and wire-wound resistors. Our production range include single-head and double-head solutions to provide answers to all specific needs.



Double head

Our double-head machine is particularly suited for bending:

- medium to long length parts with lots of bends;
- symmetrical parts and/or parts with closed shapes;
- parts with fitting already welded to the wire prior to bending;
- parts with flexible hose zones included;
- tubular heating elements.

ADVANTAGES

Double the productivity for symmetrical parts;
Perfect planarity;
High repeatability even for complex and long parts.

Single head

The single-head solution is more suitable for processing:

- very complex shapes with three-dimensional development;
- parts of shorter length;
- parts needing different bending technologies.

ADVANTAGES

High degree of bending freedom;
Wide range of applicable bending technologies (flexion, strike, variable radius bending etc.).

E-FLEX

Single-head wire bending machine

The **E-FLEX** is the new automatic single-head, all-electric, CNC wire bending machine. Equipped with two clockwise and anticlockwise bending turrets, it is perfect for 3D bending and allows multiple bending technologies to be performed on the same part within the same cycle. Its coil feeding provides a continuous fully automatic operation. 3D visual graphic programming (VGP3D) and continuous visual monitoring of the bending process ensure the machine is easy, comfortable and safe to use.

E-FLEX
Two bending turrets All electric In-process right-hand/left-hand bending Up to Ø 8 mm

The wire feeding and straightening is carried out simultaneously, this guarantees precise straightening and hence bending repeatability.

Wire feeding from coil.



Dependant on the bending tools fitted and application, the machine automatically optimises the use of the two turrets.

Perfect burr-free chamfering.

The movement of the cutting device is controlled by a CNC axis. The cutting direction and stroke is programmed to guarantee a good quality cut finish and a good fit and overlap on closed shape parts.

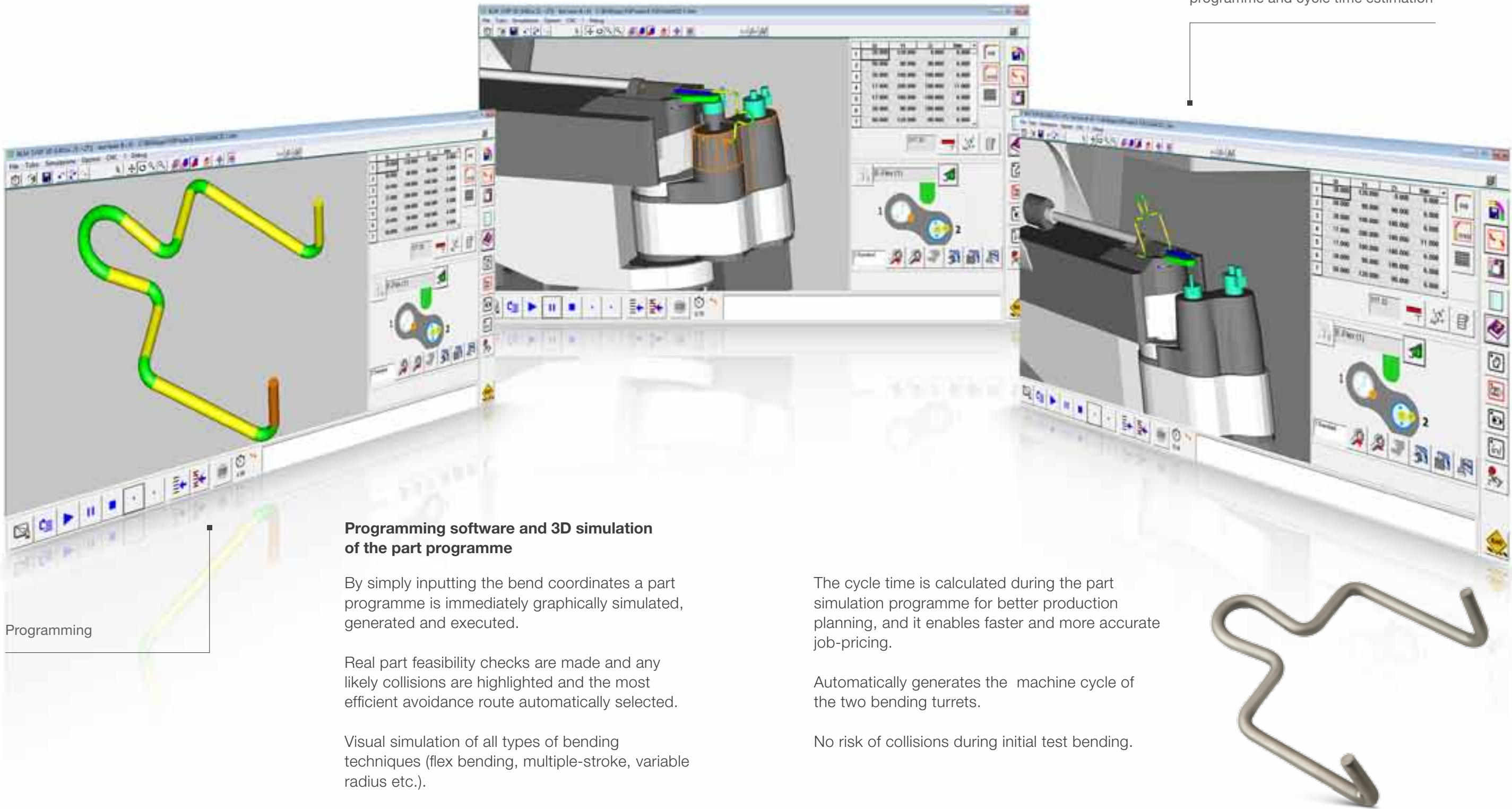


SOFTWARE SINGLE-HEAD WIRE BENDING MACHINE

VGP3D, the difference

Simulation of bending programme and elimination of possible collisions

Automatic generation of part programme and cycle time estimation



Programming

Programming software and 3D simulation of the part programme

By simply inputting the bend coordinates a part programme is immediately graphically simulated, generated and executed.

Real part feasibility checks are made and any likely collisions are highlighted and the most efficient avoidance route automatically selected.

Visual simulation of all types of bending techniques (flex bending, multiple-stroke, variable radius etc.).

The cycle time is calculated during the part simulation programme for better production planning, and it enables faster and more accurate job-pricing.

Automatically generates the machine cycle of the two bending turrets.

No risk of collisions during initial test bending.

DH2010

Double-head wire bending machine

All-electric bending machine (5 axes feeding from straight bar - 6 axes feeding from coil) with 3D visual graphic programming (VGP3D). This patented automatic bending machine has two heads (**DH2010VGP**) to double the productivity and complete even the most complex parts in wire and/or tube in a single automatic cycle. The machine can be fed with pre-cut bars or from coil.

The wire is cut and chamfered prior to bending.

Clamping the part centrally facilitates the bending of closed shapes and provides better support to the material.

Material can be fed from coil and/or pre-cut bars without any set-up or adjustments.



DH2010VGP

- Two bending heads
- All electric
- In process right-hand/left-hand bending
- Up to Ø 12 mm
- The finished parts are unloaded automatically



The wire feeding and straightening is carried out simultaneously to guarantee precise straightening and hence bending repeatability. The revolving wire straightener can hold six straightening units each pre-set for different wire diameters to minimise changeover time.



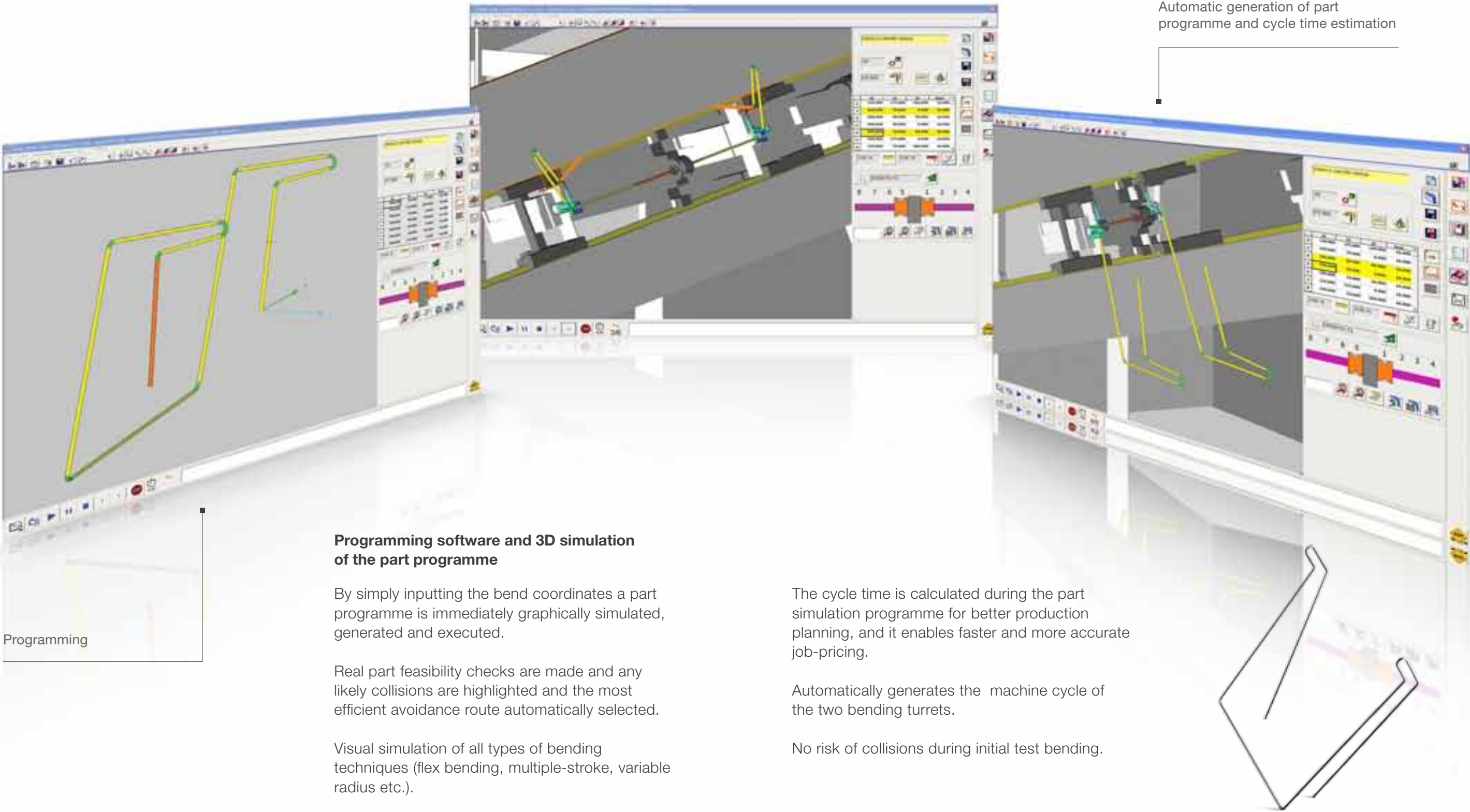
The chamfering on both ends after cutting is perfect and burr-free.

SOFTWARE DOUBLE-HEAD WIRE BENDING MACHINE

VGP3D, the difference

Simulation of bending programme and elimination of possible collisions

Automatic generation of part programme and cycle time estimation



Programming

Programming software and 3D simulation of the part programme

By simply inputting the bend coordinates a part programme is immediately graphically simulated, generated and executed.

Real part feasibility checks are made and any likely collisions are highlighted and the most efficient avoidance route automatically selected.

Visual simulation of all types of bending techniques (flex bending, multiple-stroke, variable radius etc.).

The cycle time is calculated during the part simulation programme for better production planning, and it enables faster and more accurate job-pricing.

Automatically generates the machine cycle of the two bending turrets.

No risk of collisions during initial test bending.

FIRST PART RIGHT FROM THE START

The machine automatically and safely corrects the program searching for prior bending jobs in its database to get the part right from the start. This eliminates the need for manual adjustments which were once indispensable to obtain the required result.



BLM GROUP

Why choose BLM

One partner for both wire and tube processing managed in an all-in-one, common software environment

With BLM GROUP'S unrivalled technological manufacturing solutions across such a broad range of processes (including: laser cutting, production sawing, bending, endforming, tube end cropping etc.) there is the opportunity to have a common software management controlling a wide variety of different manufacturing processes with all the benefits it entails.

All Electric

All setup parameters are saved with the current part program, this means: fast set-up, exact axis position repeatability, minimal expertise for tool changeovers significantly deskill the total operation of the machine. This also consistently guarantees the repeatability and accuracy of the bent components and highest quality of bends. Eco-compatible: it drastically reduces noise, eliminates hydraulic oils (and their disposal) and minimises power consumption (up to 50% energy saved compared with electro-hydraulic machines).

Three-dimensional graphic programming

- easy, interactive, fast and visual;
- the skills and experience, traditionally essential, to optimise double-head bending machine is now automatically managed by the machine's control and programming thus minimising operator intervention and expertise;
- possibility of changing running sequence directly in simulation (and not by hand on the machine);
- Installed on the machine and also available for off-line programming.



WIRE RANGE

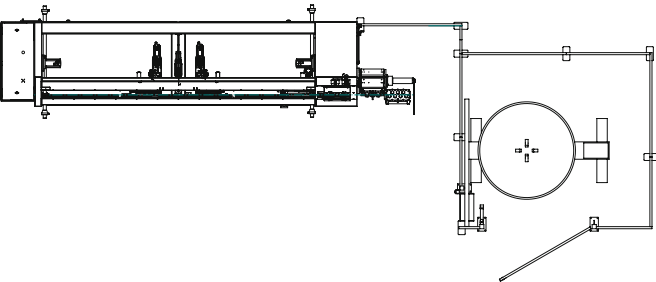
Technical information

E-FLEX	
Wire bending capacity	Ø 6 R=900N/mm2 Ø 8 R=500N/mm2
Machine configuration	single head with two turrets
Right-hand/left-hand bending	yes, on both turrets
Number of electric axes	5
Bending radius	min. 0.5 - infinite
Distance between die axis and rear head (maximum length of wire which retracts)	600 mm
Bending angle	infinite
Wire cutting (controlled axis)	two-way
Maximum power installed with coiler	13 kw
Machine weight	2400 kg
De-coiler weight	800 kg
Basic machine dimensions	8000 x 4650 x 2000 mm
De-coiler capacity	1500 kg (can be increased on request)



CNC: SIEMENS SIMOTION CNC for continuous movement monitoring and accurately managing axis paths according to the VGP 3D simulation. **Operator interface:** interactive graphic programming with 3D machine model. SIEMENS SIMATIC PANEL PC677C industrial PC with INTEL Core I7-610E processor, 4GB RAM, 32 GB solid-state hard disc for storing programs and tool data. Windows 7 ULTIMATE operating system. Connections: 2xEthernet, 5xUSB, 1xRS232. Touch screen operator panel (19" TFT colour display). SIEMENS MCP483 machine panel. Standard remote assistance (Internet connection required). **Digital drives:** SIEMENS SINAMICS with DRIVE-CLiQ digital interface integrated with all system components, including motors and transducers. Brushless electric motors with position feedback using absolute encoders.

DH2010VGP	
Wire bending capacity (600 N/mm2)	Ø 10 mm
Max. tube bending capacity	Ø 16 mm (*depends on material and average radius)
Number of electrical axes	5
Number of electrical axes with machine from coil	6
Bending radius	min. 0.5 mm - infinite
Bending angle	min. 0.1° - max. 240° (can be increased on request, infinite rotation)
Maximum distance between two bending heads	up to 3000 mm (depending upon machine configuration)
Maximum installed power manual loading version	10 kW
Maximum installed power machine with de-coiler	11,5 kW
Basic machine weight	2900 Kg
De-coiler weight	800 kg
Basic machine dimensions	6665 x 2452 x 1815 mm (manual loading) 9365 x 2970 x 1815 mm (from coil)
De-coiler capacity	1500 kg (can be increased on request)



CNC: SIEMENS SIMOTION CNC for continuous movement monitoring and accurately managing axis paths according to the 3D simulation. SIEMENS SINAMICS digital drives with DRIVE-CLiQ digital interface integrated with all system components, including motors and transducers. Brushless electric motors with position feedback using absolute encoders. **Operator interface:** interactive graphic programming with 3D machine model. SIEMENS SIMATIC PANEL PC577B industrial PC with INTEL MOBILE CELERON 1.86 GHz/512 MB, 80 GB hard disk (for saving programs and tools). Windows XP ProEmbSys SP2 operating system. Connections: 2xEthernet, 5xUSB, 1xRS232. TOUCH SCREEN operator panel (15" TFT colour display, membrane buttons). SIEMENS MCP483 machine panel. Standard remote assistance (Internet connection required). Optional connection to analogue telephone network.

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

TUBE BENDING

endforming
lasertube cutting system
sawing, deburring and washing
cutting & end machining
combined sheet and tube laser cutting
handling
3d measuring
manufacturing cell
non touch measuring systems
process control software



BLM GROUP

BLM

BLM S.P.A.

via selvaregina, 30
22063 cantù (co), Italy
tel. +39 031 7070200
fax +39 031 715911
email: export@blm.it
www.blmgroup.com



FSTES.INT. 03/14