# bend master

# BM 32 IMS

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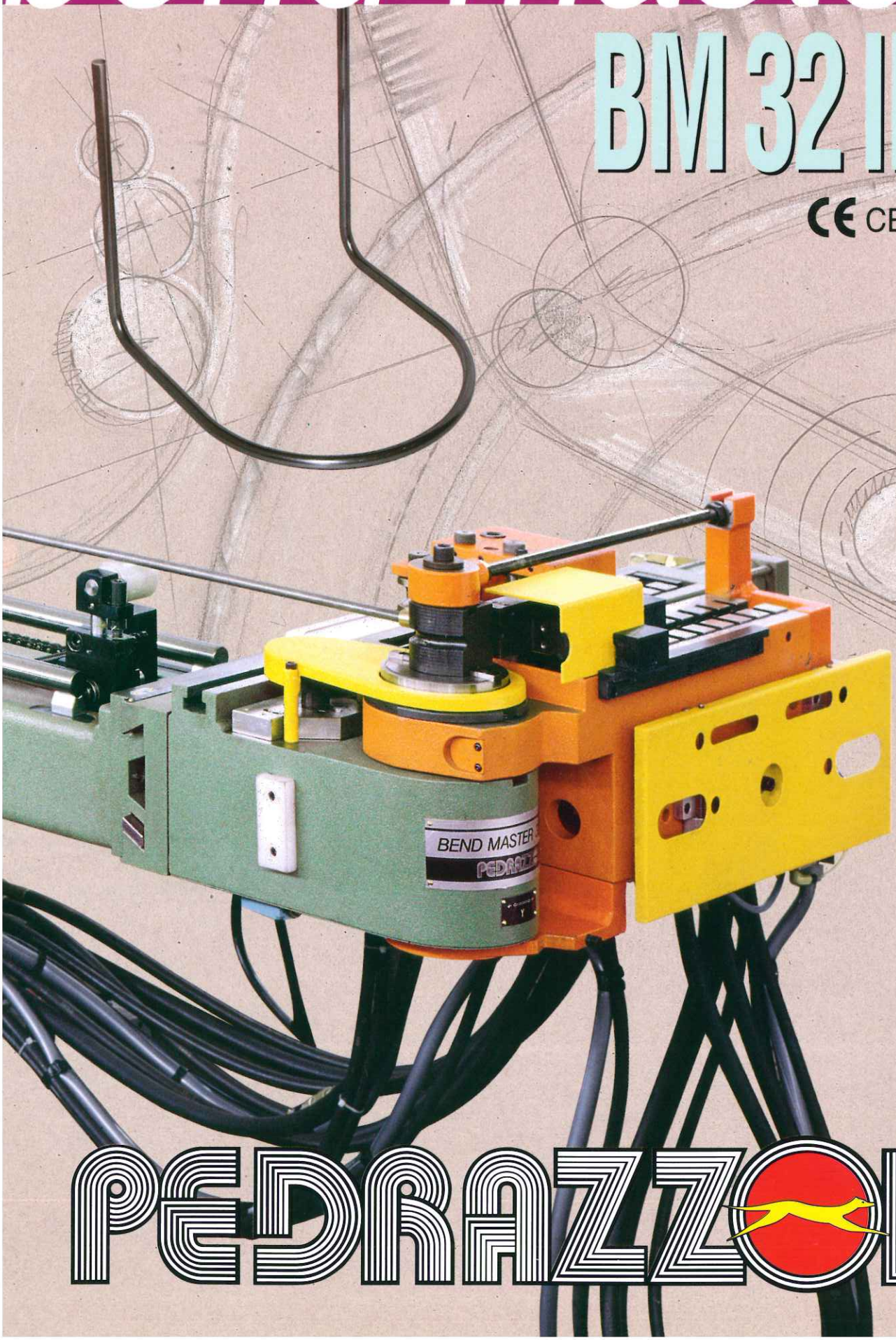


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PEDRAZZOLI®

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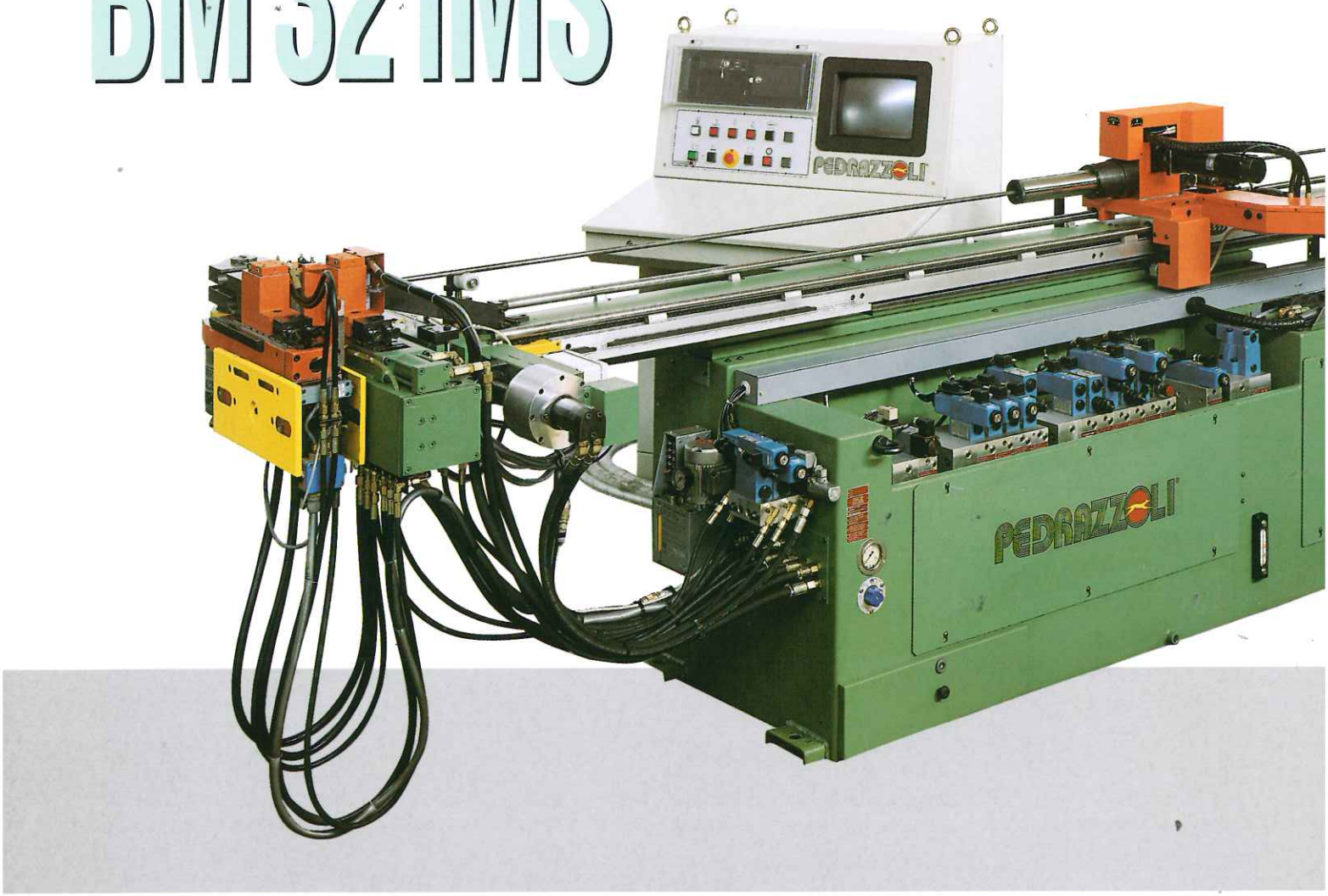
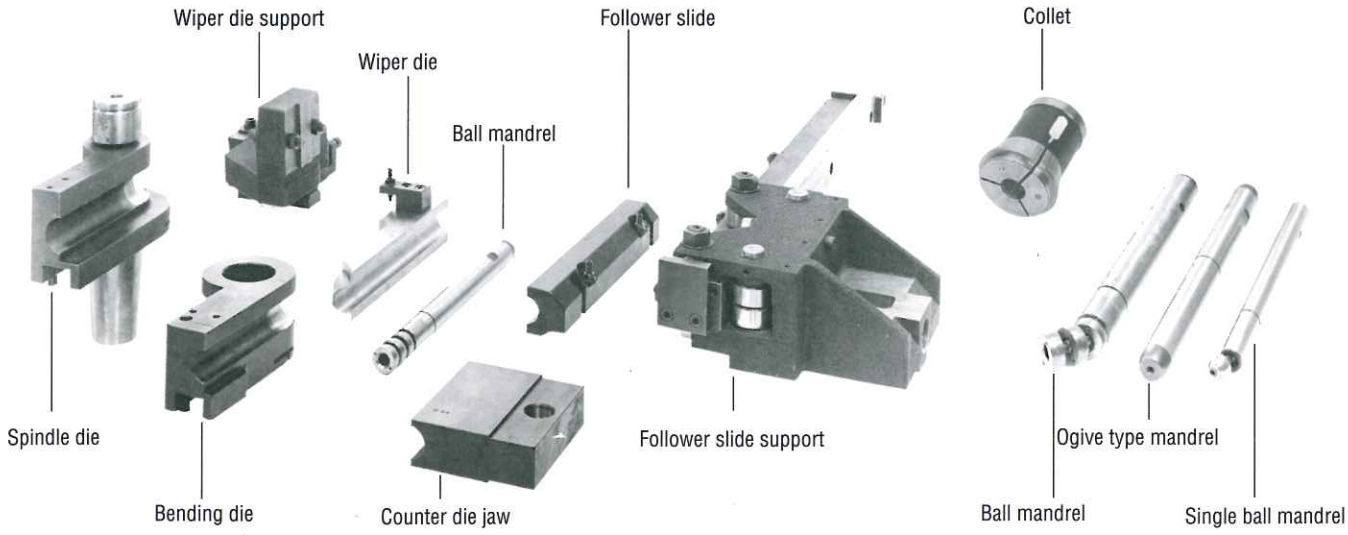
# BM 32 IMS



The BEND MASTER 32 IMS pipe bender is a completely automatic machine designed for users who require high flexibility and production capacity. Its particularly accurate design and the use of circuit components by leading manufacturers make the BEND MASTER IMS models some of the most technologically advanced machines in the world. Versatility, stability during work, precision, simple programming, simply connected equipment and practical regulations that allow minimum machine preparation times are the strong points of this pipe bending machine.

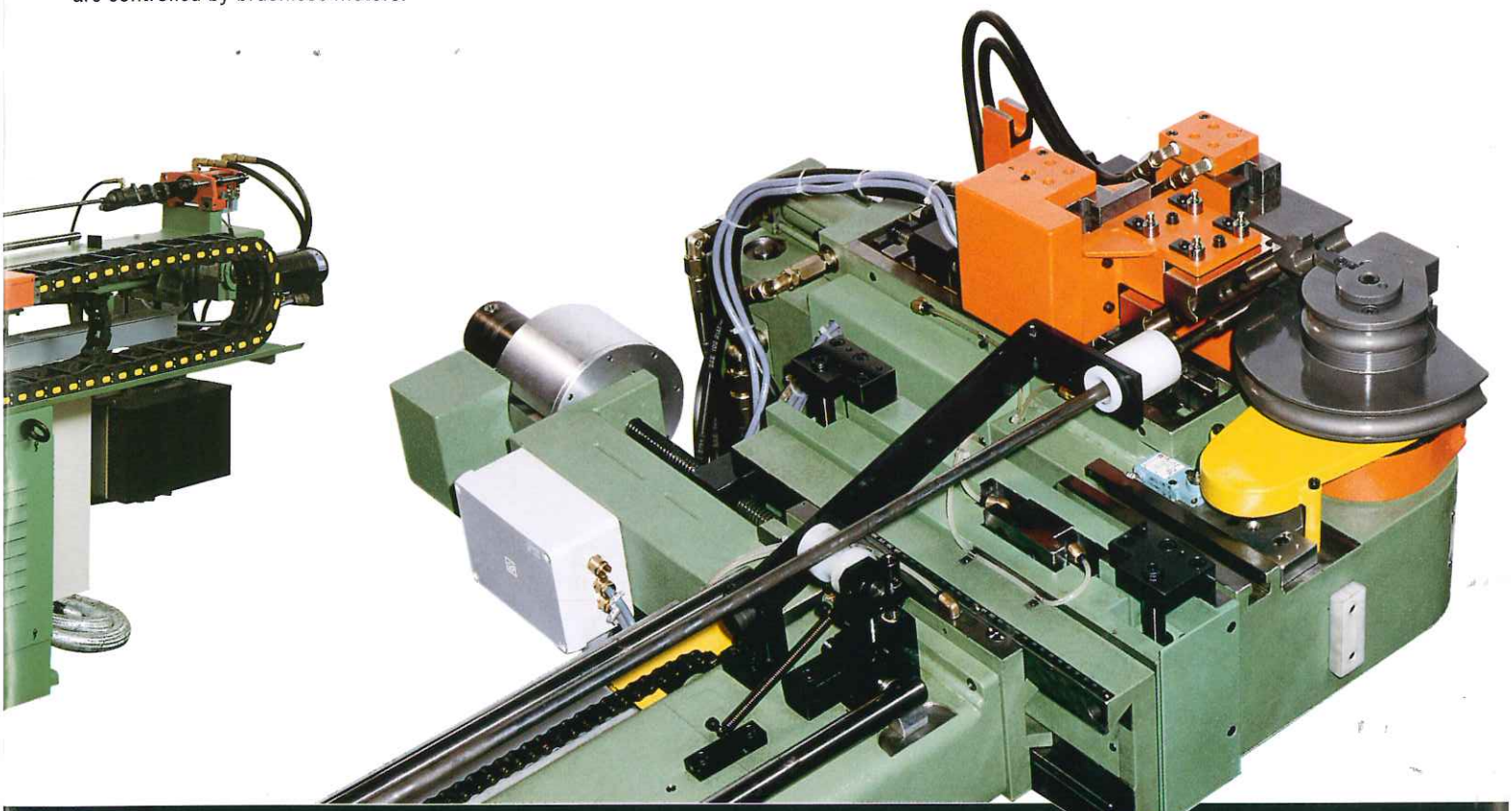
High quality mechanical features enable it to operate with maximum yield and the guarantee of excellent results. The IMS control (Intelligent Motion System), with software completely developed by Pedrazzoli which has over forty years of active experience in the bending sector, governs:

-The X and Z axes, for pipe advance and rotation respectively, which are controlled by brushless motors.

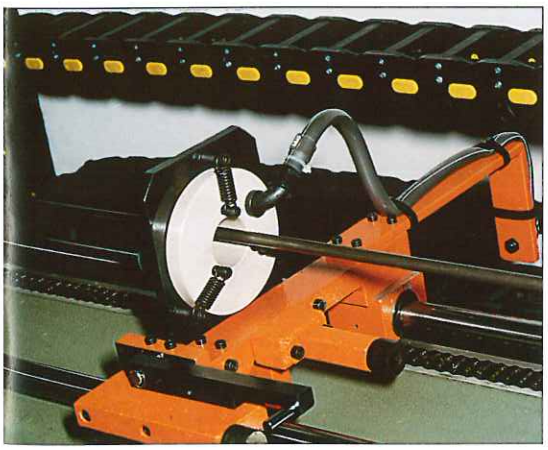
-The Y bending axis which is controlled by a hydraulic cylinder with servo-valve.

IMS is also synonymous with fast and easy use, thanks to the visual symbols and TOUCH SCREEN.

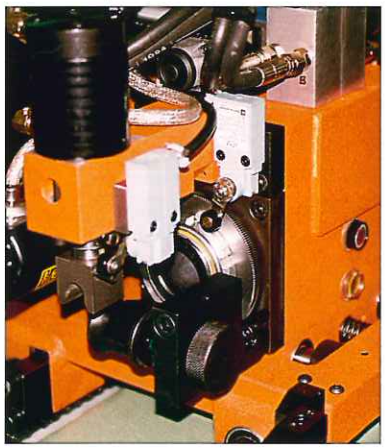
The last but by no means the least interesting aspects of this machine are: its high movement speed (pipe advance 100 metres/min, mandrel rotation 420°/sec, bending 240°/sec); ON-LINE information on pipe bending productivity, with the possibility of printing a production report; the use of automatic bending systems with automatic loading and unloading of the pieces and OFF-LINE control by means of laser measuring centres.



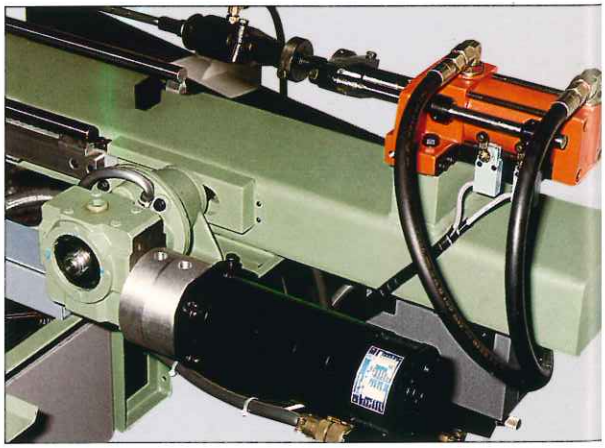
Model BM32R2 with double die equipment for automatic production of parts with two different radiuses. This model is intended especially for use in the sector of tubular furniture (chairs for example) where creativity and design are essential elements.



**1** • Safety device for mandrel rod. Avoids warping of the shaft, blocking the reverse movement of the carriage in the event of seizing of the mandrel.



**2** • Carriage with lifting device which allows the processing of pipes longer than the machine's maximum capacity when working without the mandrel rod.

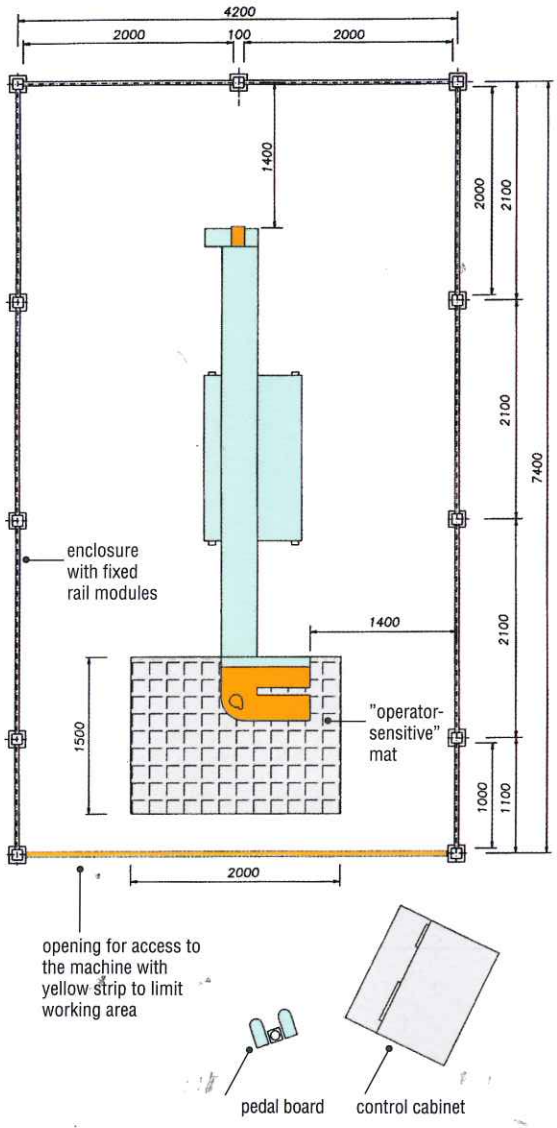


**3** • Geared motor for movement of the carriage (X axis) and mandre extraction cylinder.

# bend master BM 32 IMS

| TECHNICAL DATA | | BM32 | BM32R2 |
|---|---|---|---|
| Max. bending capacity with material R 40 kg/mm² | mm | 32x2 | |
| Minimum inside bending radius with normal spindle | mm | 19 | |
| Max. centerline bending radius: -operating with slide -operating with rollers | mm | 200<br>220 | fixed slide<br>250<br>250 |
| Counterdie carriage stroke (adjustable) | mm | 10÷40 | |
| Roller or slide carriage stroke | mm | 45 | |
| Max. bending angle | ∠ | 185° | |
| Max. length of pipe to be bent: - with front stop mounted - with fixed rear stop - with mobile rear stop | mm | 3000<br>3700<br>> 3700 | |
| Working height | mm | 1085±10 | |
| Installed power | kW | 7.5 | |
| Hydraulic pump capacity | l/1' | 30 | |
| Max. bending speed (var. Y axis) | °/sec | 240 | |
| Max. rotation speed (Z axis) | °/sec | 420 | |
| Max. carriage drive speed (X axis) | m/1' | 100 | |
| Hydraulic oil tank capacity | l | 150 | |
| Dimensions (closed arm): length -width -height | mm | 4835<br>830<br>1310 ± 10 | 5270<br>950 |
| Machine weight | kg | 1500 | 1650 |
| IMS box weight | kg | 280 | |

## LIMITS OF THE WORKING AREA

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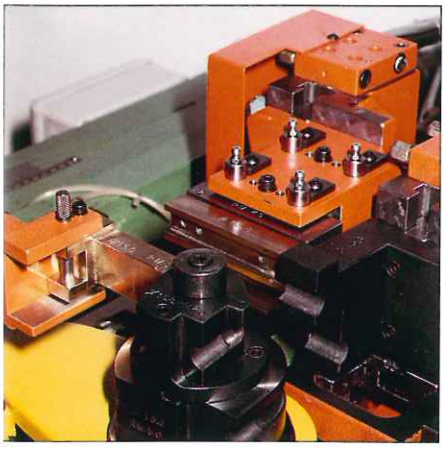
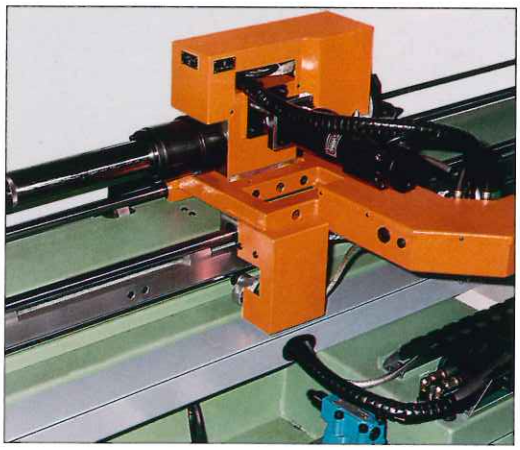
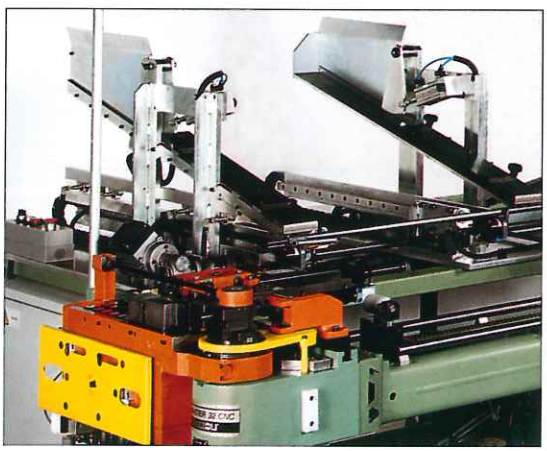


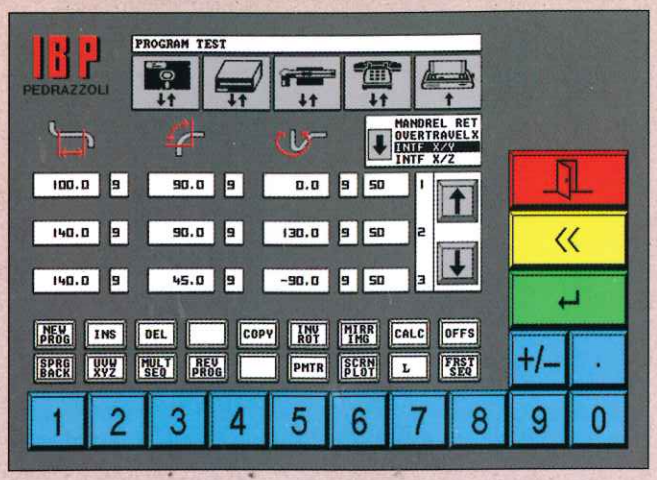
**4** • Double die equipment for creating parts with different radiuses (max. Rmean = 250 mm) without having to change the equipment.

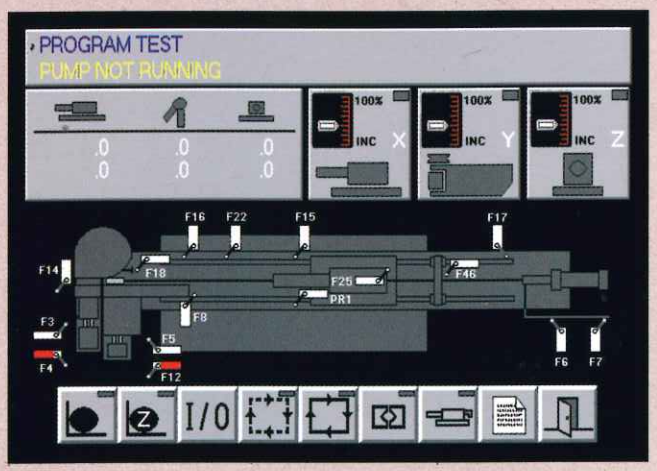


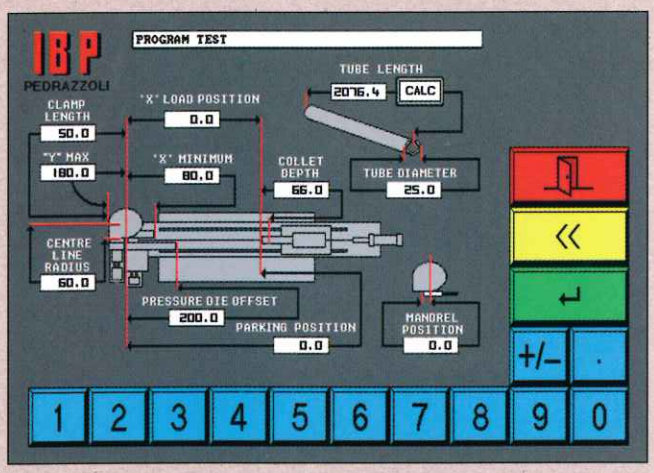
**5** • Positioning carriage with free transverse movement to allow better closing of the counterdie trolleys and the ram when working in advance position.

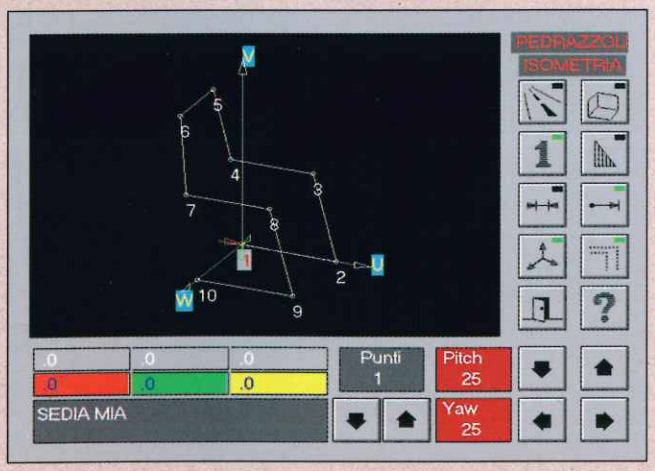


**6** • Side loader for feeding pipes with small diameters.




# INTELLIGENT MOTION SYSTEM

THE NEW CONTROL CONCEPT FOR PEDRAZZOLI PIPE BENDING MACHINES

Simplicity of use is the characteristic feature of the powerful IMS control unit. There is no need to know anything about programming to get the best out of this control; it is sufficient to refer to the graphic reproduction of the machine operation shown on the video. The software may be personalized to suit the customer's specific requirements. This software has been completely developed by Pedrazzoli, so today's customer can rely on future updatings being always available. The particular distinguishing feature of the IMS control unit for Bend Master machines is that its functions can be controlled by simply touching the graphic colour screen (SOFT TOUCH); other functional characteristics are the following:

- Storage of programs on a floppy disk or on the hard disk (in distinct memory areas depending on the user's requirements).
- Programs are called by name or groups of names with the same initials; by mean radius or groups of radius; by pipe diameter or groups of diameter.
- Possibility of communicating with other computers, with the Measuring Centre and with a printer.
  Automatic programming for making mirror-image parts.
- Built-in calculator.
- Automatic calculation of pipe length according to set parameters.
- Automatic correction of bending angles (Overbend).
- Programming by both Cartesian coordinates and UVW.
- Three-dimensional graphic reproduction of the part to be produced with possibility of continuous rotation.
- "Multisequence" option for producing different parts sharing the same pipe and the same bending radius.
- Continuous speed regulation for the movement of all the axes.
- Individual manual movement of all the machine functions.
- Input and output display for checking malfunctions.
- Possibility of recovery of the piece being processed after accidental or intentional stopping of the cycle.
- "Isometric" function for viewing the piece in space in various ways and prospects with possibility of interaction.
- Program memory back-up function.
- DXF interface (connection with Autocad).
- Production report (incremental video screens on the progress of jobs performed showing: chronology, hours of machine operation, pieces produced, mean piece production time and the time expected for completing the job order).
- IMS OFFICE software (on request) which provides an independent environment for developing pipe bending programs.

TECHNICAL CHARACTERISTICS OF THE COMPUTER

- Industrial personal computer AT - IBM compatible.
- Microprocessor INTEL 80486 DX2 at 66 MHz
- RAM memory 4Mb - 40 Mb extractable hard disk
- Minidisk unit 1.4 Mb 3" 1/2.
- Serial and parallel interface
- VGA colour card