

REVERSE 35 - DS

WORLDWIDE PATENT



REVERSE 35 - DS

ELECTRO-HYDRAULIC BEMA PATENTED TUBE BENDING MACHINE WITH NUMERICAL CONTROL, TWO INDEPENDENT WORKING HEADS, AUTOMATIC "DS" WORKING DIRECTION (RIGHT AND LEFT) IN THE SAME CYCLE, 5 CONTROLLED AXES, MIN. THREE RADII OR BENDING STACKS FOR EACH HEAD, SPECIALIZED NUMERICAL CONTROL WITH 32 BIT MOD. "I.P.C. RAINBOW" AND "TOUCH SCREEN".

special features

- ▶ 5 CONTROLLED AXES (ELECTRICAL WITH BRUSHLESS MOTORS)
- ▶ AUTOMATIC RIGHT / LEFT WORKING DIRECTION IN THE SAME CYCLE
- ▶ SMALL DIMENSIONS OF THE TWO INDEPENDENT WORKING HEADS
- ▶ MIN. THREE RADII OR BENDING STACKS FOR EACH WORKING HEAD
- ▶ MIN. SIX TOOLINGS
- ▶ INTEGRATED TUBE FEEDING / DISCHARGING
- ▶ VARIABLE RADIUS (OPTIONAL)
- ▶ CYLINDER FOR OPENING AND CLOSING SPLIT BEND DIES UNDER HEAD TO BEND (ALSO WITH AUTOMATIC RIGHT / LEFT WORKING DIRECTION IN THE SAME CYCLE)
- ▶ SQUARE, RECTANGULAR, ELLIPTICAL AND OVAL TUBES (OPTIONAL)
- ▶ 32 BIT NUMERICAL CONTROL MOD. "I.P.C. RAINBOW" with TOUCH SCREEN
- ▶ SOFTWARE BY BEMA IN "WINDOWS" ⁽¹⁾ ENVIRONMENT
- ▶ "ISO" DATA PROGRAMMING - "CARTESIAN / POLAR"
- ▶ "INSPECTION OF PIECE FEASIBILITY" SOFTWARE (OPTIONAL)
- ▶ "TELEASSISTANCE" SOFTWARE (OPTIONAL)
- ▶ AUTOMATIC FEEDERS / DISCHARGERS / ROBOT (OPTIONAL)
- ▶ QUICK CHANGE TOOLING
- ▶ HIGH PRODUCTIVITY
- ▶ USER-FRIENDLY
- ▶ RELIABLE
- ▶ ECONOMIC

⁽¹⁾ WINDOWS is a registered trade mark by "MICROSOFT CORPORATION"

technical data

REVERSE 35 - DS		
Max tube bending capacity mild steel round tube	mm.	35 x 2
Max tube bending capacity mild steel square tube	mm.	30 x 30 x 1,5
Max bending radius with rollers	mm.	180
Max working length with recapture	mm.	4500
Bending speed Axes "CD"- "CS"	°/sec.	310
Rotation speed Axis "B"	°/sec.	800
Forward speed Axis "Y"	mm/sec.	2000
Heads movement speed Axis "Z"	mm/sec.	1000
Position accuracy Axes "C"- "B"- "Y"- "Z"	°/mm.	+/- 0,1
Max installed power	Kw.	22
Approximate machine weight	Kg.	4500

optionals

- ▶ "STANDARD" follower die (Right and Left)
- ▶ Wiper die support (Right and Left)
- ▶ Short rollers carriage (Right and Left)
- ▶ Anticipated adjustable mandrel retraction
- ▶ Cylinder for opening and closing split bend dies ON and UNDER head (Right and Left)
- ▶ Interchangeable die-holder pin (Right and Left)
- ▶ Double cross bar (Right and Left)
- ▶ Machine length' extention for tube loading WITH and WITHOUT recapture cycle
- ▶ Control and automatic correction of the bending angle in cycle
- ▶ Software and device to BEND WITH VARIABLE RADIUS
- ▶ Device for INDEPENDENT REVERSAL DIE (Right and Left)
- ▶ Device for tube unclamping at the end of the cycle
- ▶ Automatic device for tube clamping with mobile mechanical stop
- ▶ Drilling device in single and double cycle
- ▶ Punching device in cycle
- ▶ Anti-bending device for the mandrel rod
- ▶ Weld seam detection (for tube bending machines or feeders)
- ▶ AUTOMATIC FEEDER MOD. "CT 35 ECO"
- ▶ AUTOMATIC FEEDER MOD. "CT 35 / 45 CNC"
- ▶ "TELEASSISTANCE" Software
- ▶ Software for the "INSPECTION OF PIECE FEASIBILITY"
- ▶ Software for the CONNECTION WITH DIAL-UP UNITS (Office PC - LABES 3)

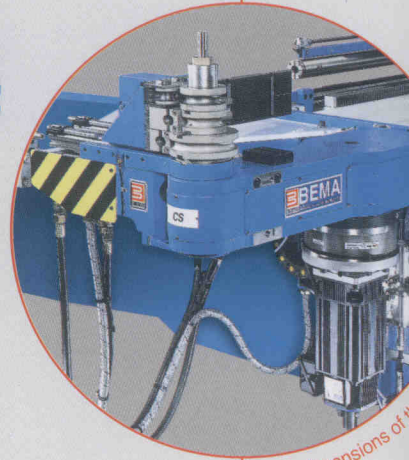
Machine's part



REVERSE 35 - DS



Small dimensions of the



Small dimensions of the

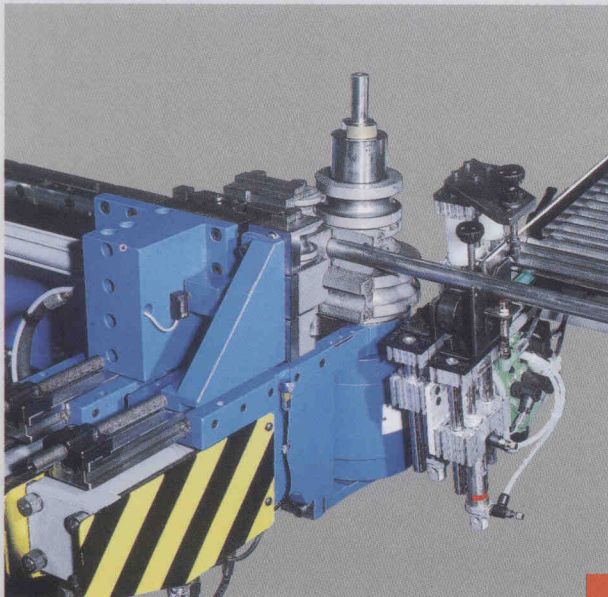


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PATENTED Positioning Carriage
Automatic device for tube clamping with mobile mechanical stop (optional)



Cylinder for opening and closing split bend dies UNDER head (optional)

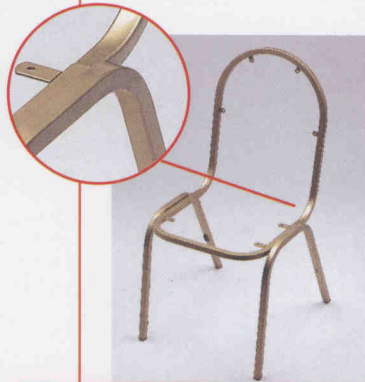
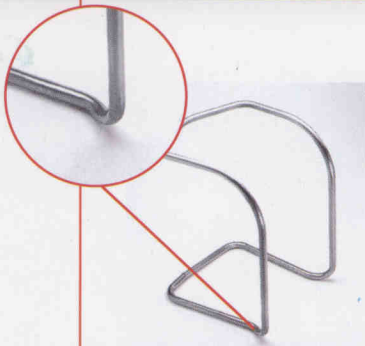


INTEGRATED AUTOMATIC FEEDING

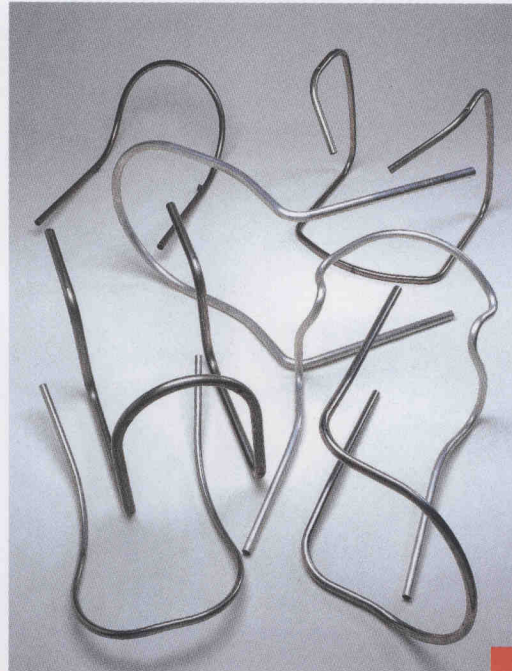


INTEGRATED AUTOMATIC DISCHARGING

REVERSE 35 - DS



**CYLINDER UNDER HEAD
RIGHT/LEFT**



**AUTOMATIC
RIGHT / LEFT**

**MIN. 6
TOOLINGS**

**INDIPENDENT
REVERSAL DIE**

**VARIABLE
RADIUS**

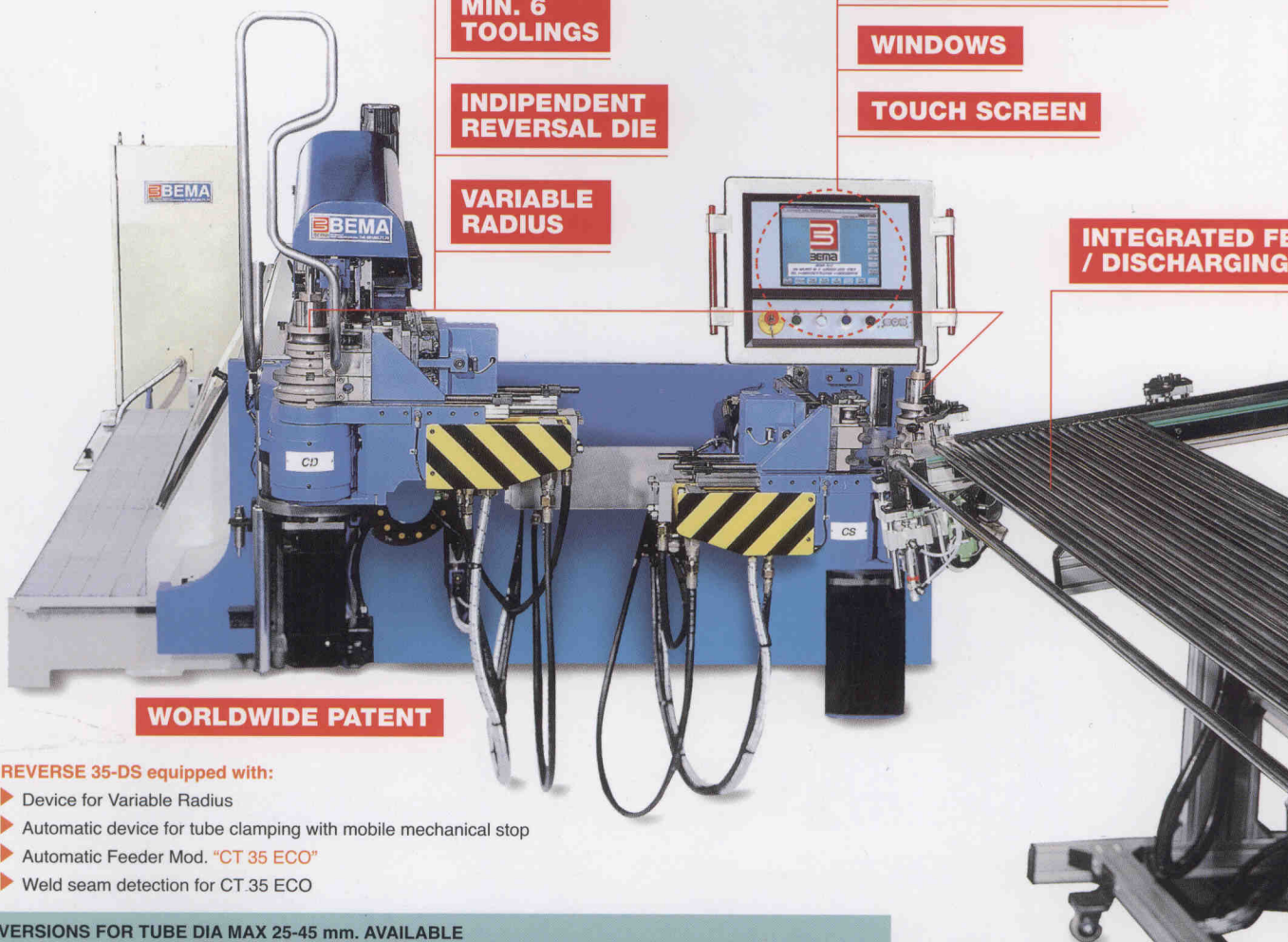
"ISO" - "CARTESIAN" / "POLAR"

5 ELECTRICAL AXES

WINDOWS

TOUCH SCREEN

**INTEGRATED FEEDER
/ DISCHARGING**



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REVERSE 35-DS equipped with:

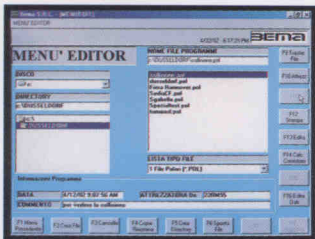
- ▶ Device for Variable Radius
- ▶ Automatic device for tube clamping with mobile mechanical stop
- ▶ Automatic Feeder Mod. "CT 35 ECO"
- ▶ Weld seam detection for CT 35 ECO

VERSIONS FOR TUBE DIA MAX 25-45 mm. AVAILABLE

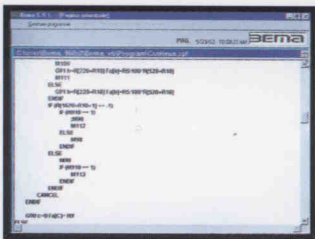
Numerical Control



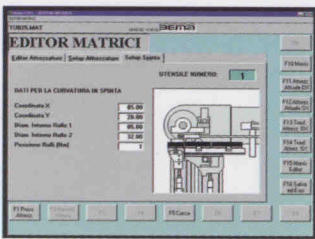
Multi-language SW



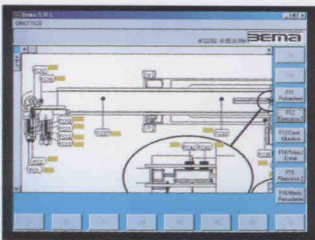
Programmes editing MENU (EDITOR)



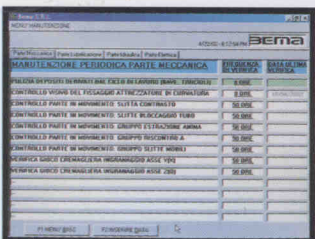
"ISO" Programming



Tooling EDITOR



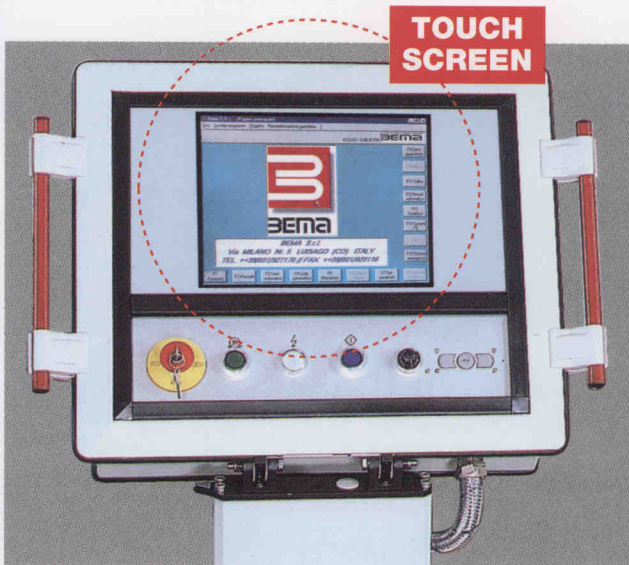
Machine' sinoptic



Programmed maintenance

AVAILABLE ON REQUEST:

- SOFTWARE PACKAGE for the connection (by MODEM) of the New Specialized Numerical Control "I.P.C. RAINBOW" - Touch Screen of our machines to the "TELEASSISTANCE" service by BEMA
- SOFTWARE PACKAGE FOR THE PRELIMINARY INSPECTION OF PIECE FEASIBILITY
- SOFTWARE PACKAGE FOR THE CONNECTION to Office PC, LABES 3 Measuring Centres and ETHERNET Network
- Special cycles and software.



STANDARD

- I.P.C. CELERON 800 MHz;
- NC 32 bit
- HD 20 Gb
- RAM 64 Mb
- Floppy Disk 3,5"
- Monitor T.F.T 15" Touch Screen
- Graphic card VGA 4 Mb Ram
- RS 232 n° 4
- LPT n° 1
- USB n° 2
- Ethernet Card
- PLC integrated
- Software in WINDOWS ⁽¹⁾
- ISO Programming

"I.P.C. RAINBOW" - Touch Screen

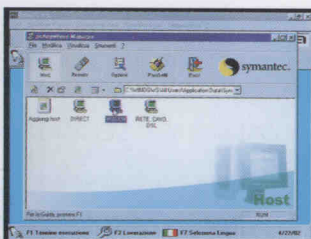


OPTIONAL:

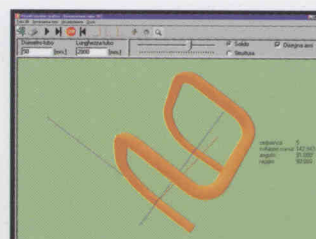
- SIEMENS Mod. "840 Di"
- I.P.C. PENTIUM III 800
- HD 4,8 Gb
- RAM 128 Mb
- Floppy Disk 3,5"
- Monitor T.F.T 12"
- SVGA 800X600
- RS 232 n° 2
- LPT n° 1
- USB n° 2
- Card Ethernet
- Mouse integrated
- PLC SIEMENS Mod. "S7 300" integrated
- Software in WINDOWS ⁽¹⁾

SIEMENS "840 Di"

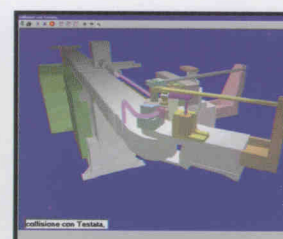
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SW Teleassistance - Modem

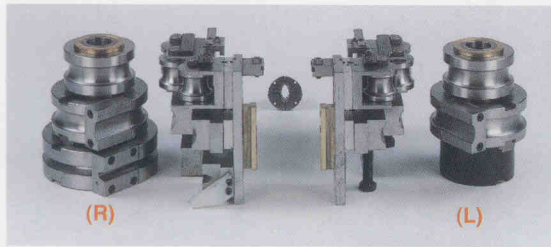


Piece' three-dimensional graphics



SW for the preliminary inspection of piece feasibility

Tooling



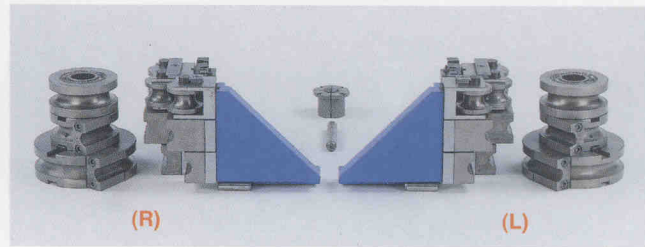
Right / Left tooling to bend OVAL TUBES (both on face and on flat side) with SPLIT BEND DIES and Variable Radius equipped with:

RIGHT WORKING HEAD (R)

- 01 Tooling with Variable Radius (on flat side)
- 01 Tooling with Die (on flat side) R.M. 75 mm.
- 01 Tooling with Die (on face) R.M. 90 mm.

LEFT WORKING HEAD (L)

- 01 Tooling with Variable Radius (on flat side)
- 01 Tooling with Die (on flat side) R.M. 75 mm.



Right / Left tooling to bend ROUND TUBES by Die and VARIABLE RADIUS equipped with:

RIGHT WORKING HEAD (R)

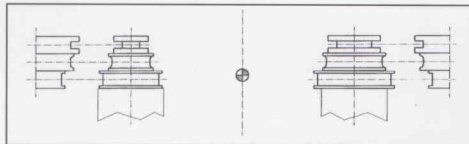
- 01 Tooling with Variable Radius
- 01 Tooling with Die R.M. 50 mm.
- 01 Tooling with Die R.M. 75 mm.

LEFT WORKING HEAD (L)

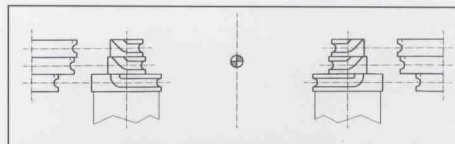
- 01 Tooling with Variable Radius
- 01 Tooling with Die R.M. 50 mm.
- 01 Tooling with Die R.M. 75 mm.

$$\frac{D}{S} \leq 20$$

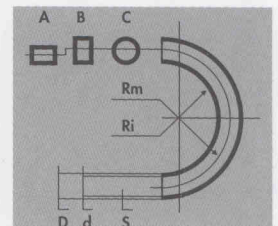
$$\frac{R_m}{D} = 2,5 \div 3$$



Oval and rectangular tubes bent on face and on flat side



Min. 6 different bends and counter-bends in the same cycle



Usual working terms

Production Range

- ▶ Automatic tube bending machines Series "G" with 1 or 2 axes
- ▶ CNC tube bending machines Series "REKORD CNC" with 3 or more axes and one radius or bending stack
- ▶ CNC tube bending machines Series "REKORD FCZ" with 4 or more axes and two or "n" radii or bending stacks.
- ▶ PATENTED tube bending machines Series "REVERSE" with 5 or more axes, with two working heads, automatic Right and Left working direction in the same cycle an MIN. of 4 (8) radii or bending stacks
- ▶ Orbital CNC tube bending machines Series "PRIMATIST" from coil
- ▶ Automatic tube bending machines with 2 independent heads Series "CD 40/2500"
- ▶ Three-dimensional Measuring Centres Series "LABES 3"
- ▶ Automatic tube end forming machines Series "BS" and "BSG"
- ▶ CNC tube end forming machines with or without Spinning Units Series "SER"
- ▶ Segmented tooling tube end forming machines Series "D" with one or more working heads
- ▶ Special machines to work automotive exhaust pipes
- ▶ Machines Series "JOTA" and "UR" to bend with variable radius and to roll alloy tube ends
- ▶ Automatic cutting lines, Deburring tube ends, tube ends' processing, Washing, Control and tube Packaging
- ▶ Packaging machinery for tubes and bars
- ▶ Chamfering plants for tubes and bars
- ▶ Handling plants for tubes and bars
- ▶ Automatic transferts, tube working units
- ▶ Production cells, feeders and special machines to work tubes
- ▶ Electronics for tube manipulation

BEMA is determined to offer machines using the latest technological developments; therefore features, details, measurements and ph here indicated are not binding. The reproduction, even if partial, of texts and photos of the present catalogue is forbidden. Any abuse will be puni by the law. Standard safety devices have been removed in some cases in order to show a clearer photographic image of the machi



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