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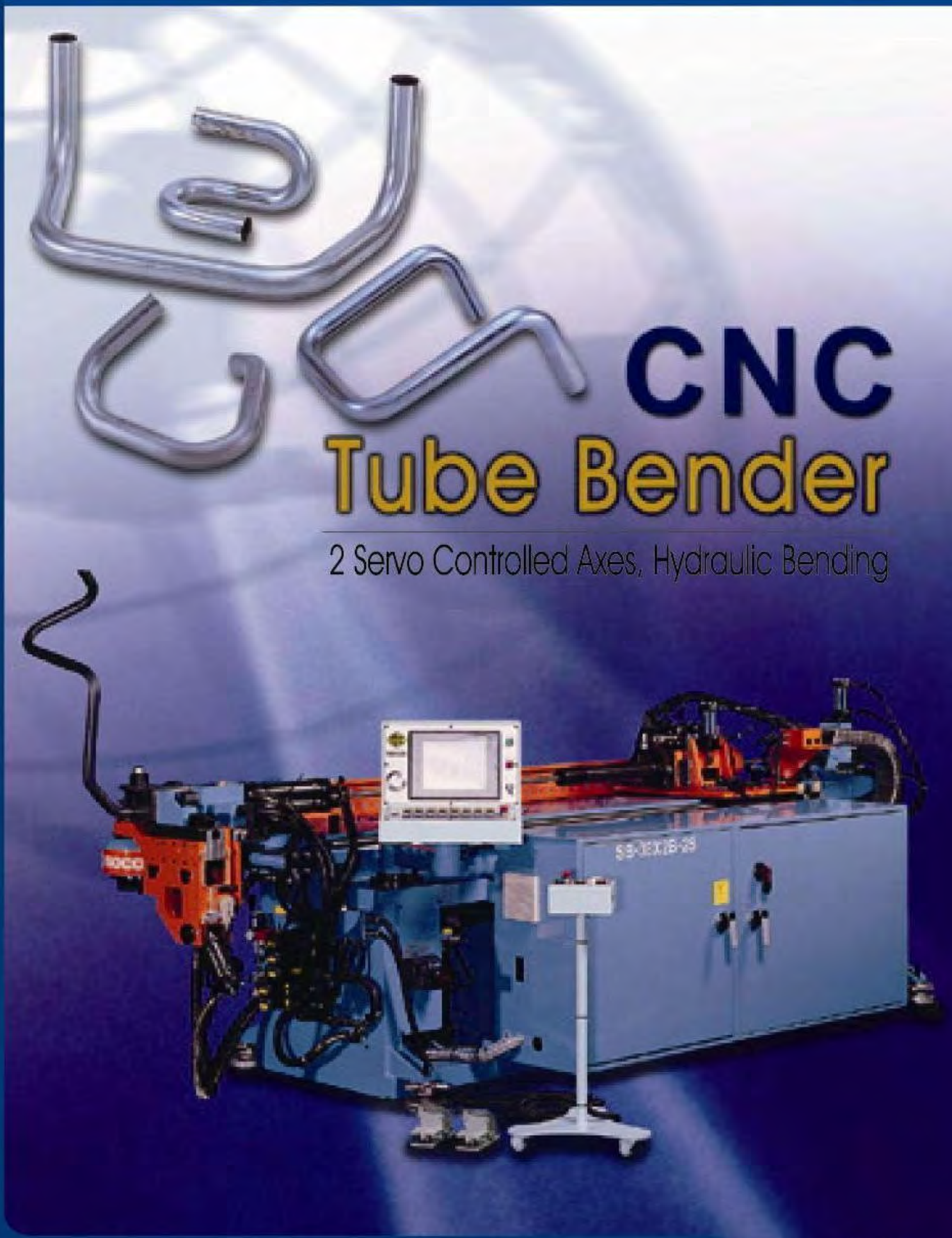


CNC Tube Bender

2 Servo Controlled Axes, Hydraulic Bending

CNC Tube Bending Machine

2 Servo Controlled Axes, Hydraulic Bending

Standard Accessories:

- One set of standard mandrel
- One set of a hydraulic mandrel extraction system
- One set of an auto-lubricating system for the mandrel
- One set of centralized grease unit for all sliding parts
- One set of pressure die assistant system
- One set of a removable push-button operation stand
- One copy of the operation manual (English Edition)

Machine Features:

- Fully Automatic and Cost-Effective CNC
- Servo controlled feeding and planning axes to ensure high precision and reliability.
- NC Hydraulic bending arm, with powerful Hydraulic pressure die booster
- The Electric Control System is equipped with fan to prolong system life. The Numeric Controlled Air Coolant can also be purchased to enhance heat dispensing ability
- Optional Auto-Lubricating system to prolong mandrel life and guarantee bending quality
- Springback Compensation -- Automatic correction of any differences caused by bending springback
- PDI Zone Recapture – Allows the carriage to move into the PDI zone for any number of bends necessary to complete the part
- Standard wiper die holder
- All electrical circuits with components and machine safety covers are properly built on. A connecting box for the safety mat is also included (safety mat is optional).
- Programmable mandrel extraction function

Control Features:

Standard: PLC with Touch Screen

- Ability to store up to 330 configuration files (12 bends for each tube)
- Equipped with high performance and reliable electric control components. Examples include Servo Driver, Servo Motor, Positioning Module, and CPU from Mitsubishi.
- Ability to adjust the feeding and planning axes through the Pulse Generator to avoid collision
- The feeding Servo Motor is equipped with front and rear limit switches to ensure safety
- The ability to switch between Chinese/English, and Metric/Imperial system on the Touch Screen. (Other languages are also available on request)
- Touch Screen enables convenient input of all parameters
- Component (Part) Program entries for YBC and XYZ data
- For each bend, compensation values, speed, and feeding axis off-set distance can be set according to the material properties
- Each individual bend may be set with 8 different action sequences, and each sequence may be set with 8 different speeds to achieve maximum efficiency and minimize interference
- Ability to choose from positive feeding or gripper feeding
- The pulse-generator allows highly precise adjustment of the carriage position on the feeding axis. The actual traveling distance of the carriage on the feeding axis can also be converted into parameters.
- Ability to record tested carriage positions on the feeding axis, to ensure the carriage is interference-free from the bending die and pressure die.
- Component (Part) Program Data Conversion from XYZ to YBC values, as well as conversion from computed work-piece length to parameters.
- Convenient reversal conversion from YBC to XYZ values
- Lockable Touch-screen to prevent files being edited by unauthorized users
- Connect to printing device for convenient display of data (optional function)
- Optional communication interface and modem connection enables direct communication with off-site engineers, allowing real-time monitoring, off-plant operation, software program update, and trouble-shooting over the network
- Self-detection and examination before feeding action to avoid collision
- Step-by-step test run to check for interference and to design bending movements, thus improve efficiency
- Option to automatically compute the first-segment length
- Ability to simultaneously open and utilize 9 different files as well as to set parameters for different material batches that use the same bending die, achieving greater flexibility
- Ability to display sequence numbers of the work pieces and their processing time
- Ability to perform multiple gripper feeding
- Error messages and Self-diagnostic functions enable easy trouble-shooting

Optional: IPC, with the following functionalities

- The system operates under Windows platform with Mitsubishi Servo Control, to offer the convenience of the Windows Operating System as well as the high performance of Mitsubishi Servo System
- Ability to store up to 30,000 configuration files (110 bends for each tube), and data storage on hard disk or floppy.
- Ability to display and preview 3D graphics converted from XYZ or YBC values for convenient testing
- Component (Part) Program Data Conversion from XYZ to YBC or from YBC to XYZ values, with computed work-piece length converted into parameters
- Component (Part) Program reversal and mirror image conversion with graphical display, with the ability to rotate parts on the screen in any given direction
- Ability to record monthly production amount and files names on hard disk

Optional software for IPC:

- Ability to receive AutoCAD data from a master computer (Free LSP software is available)
- Connect to measuring instrument to retrieve the actual readings on the feeding, bending, and planning axes and automatically calculate the compensation values to achieve efficient testing

Applicable Industries:

- Transportation: Car Seat, Bumper, Car Frames.
- Automotive: Car Handle, Car Frame, Exhaust Pipes.
- Furniture: Office Furniture, Indoor and Outdoor Furniture, Tubular Furniture.
- Leisure: Exercise Equipment.

SB-38 x 2B-2S

SB-65 x 2B-1S

SB-38 x 2B-2S

SB-51 x 2B-1S

Photo for Reference:
SB-89 x 5B-2S

SB - 89 x 2B - 1S

- SB → Single Bend
- 89 → Up to Ø 88.9m/m Tube Diameter
- 2B → 2 Servo Controlled Axes
- 2B → Bending Axis: F ll H d li NC C t l
- 1S → 1 Stack of Tooling

CNC

Tube Bending Machine

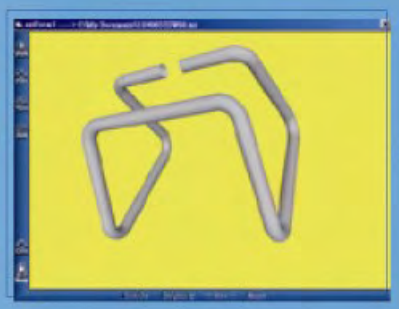
2 Servo Controlled Axes, Hydraulic Bending

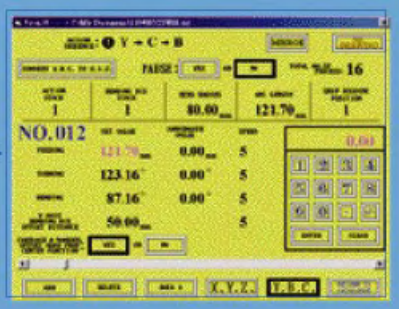
Item \ Model	SB-38×2B-1S SB-38×2B-2S	SB-51×2B-1S SB-51×2B-2S	SB-65×2B-1S SB-65×2B-2S	SB-75×2B-1S	SB-89×2B-1S
Max. Steel Tube O.D. (C.L.R. 1.5D)	38.1×3.17t	50.8×2.5t	65×3t	76.2×2.5t 63.5×4.2t	88.9×2.1t 76.2×3.5t
Max. StainlessSteel Tube O.D.(C.L.R. 1.5D)	38.1×2.2t	50.8×1.9t	63.5×2t	63.5×3.0t	76.2×2.4t
Max. Square Steel Tube (C.L.R. 2.0D)	31.75×31.75t×3.1t	50.8×50.8×1.6t	50.8×50.8×2.5t		
Max. Tube Length With Mandrel (*)	3000 mm	3600 mm	3600 mm	4100 mm	4100 mm
Max. Feeding Stroke (*)	2200 mm	2600 mm	2600 mm	2850 mm	2850 mm
Tube Feeding Way	1. Feed In Order 2. Gripper Feeding	1. Feed In Order 2. Gripper Feeding	1. Feed In Order 2. Gripper Feeding	1. Feed In Order 2. Gripper Feeding	1. Feed In Order 2. Gripper Feeding
Max. Bending Radius (*)	180 mm	250 mm	250 mm	250 mm	250 mm
Bending Die Radius Difference (R1-R2)	1S-0 2S-Max. 50 mm	1S-0 2S-Max. 75 mm	1S-0 2S-Max. 80 mm	1S-0 2S-Max. 80 mm	1S-0 2S-Max. 80 mm
Max. Bending Angle	190°	190°	190°	190°	190°
Number Of Bend Per Tube (Δ)	12 bends / 33 bends	12 bends / 33 bends	12 bends / 33 bends	12 bends / 33 bends	12 bends / 33 bends
Max. Program Storage Facility (Δ)	330 sets / 125 sets	330 sets / 125 sets	330 sets / 125 sets	330 sets / 125 sets	330 sets / 125 sets
Work Speed — Bending Speed	Max. 150° / S	Max. 85° / S	Max. 85° / S	Max. 30° / S	Max. 25° / S
Work Speed — Planning Speed	Max. 200° / S	Max. 200° / S	Max. 200° / S	Max. 160° / S	Max. 160° / S
Work Speed — Feeding Speed	Max. 1000mm / S	Max. 1000mm / S	Max. 1000mm / S	Max. 800mm / S	Max. 800mm / S
Precision — Bending Precision	± 0.15°	± 0.15°	± 0.15°	± 0.15°	± 0.15°
Precision — Planning Precision	± 0.1°	± 0.1°	± 0.1°	± 0.1°	± 0.1°
Precision — Feeding Precision	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm
Data Input Way	1. Coordinate (X.Y.Z) 2. Actual Value (Y.B.C)	1. Coordinate (X.Y.Z) 2. Actual Value (Y.B.C)	1. Coordinate (X.Y.Z) 2. Actual Value (Y.B.C)	1. Coordinate (X.Y.Z) 2. Actual Value (Y.B.C)	1. Coordinate (X.Y.Z) 2. Actual Value (Y.B.C)
Planning (B) Servo Power	450 W	850 W	1.3 KW	3.5 KW	3.5 KW
Feeding (Y) Servo Power	1.3 KW	1.3 KW	1.8 KW	3.5 KW	3.5 KW
Motor Power For Hydraulic	15 Hp	20 Hp	20 Hp	30 Hp	30 Hp
Gross Weight	2700 Kgs	1S-2850 Kgs 2S-3000 Kgs	1S-3050 Kgs 2S-3150 Kgs	7250 Kgs	7300 Kgs
Machine Dimension L x Wx H (cm)	1S-400 x 130 x 130 2S-425 x 130 x 130	1S-490 x 130 x 140 2S-510 x 130 x 160	1S-490 x 130 x 130 2S-510 x 160 x 170	495 x 185 x 155	495 x 185 x 155

Note: 1. (*) Can Be Extended By Special Order.
2. (Δ) Can Be Extended By Controller And Memory.
3. The Yield Strength For Tube Material Is 40kg / mm².

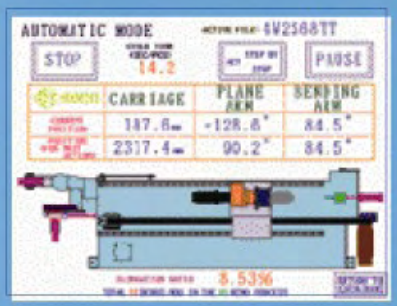
SOCO Multi-Functional Proprietary Software

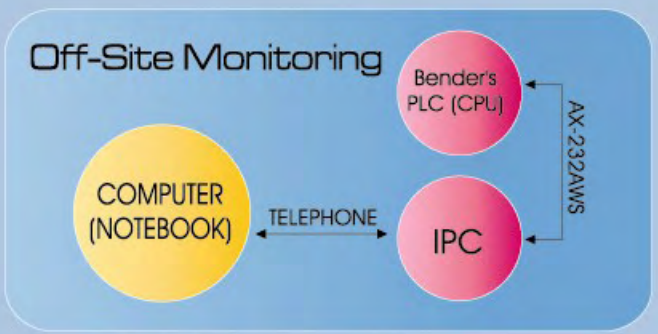
IPC

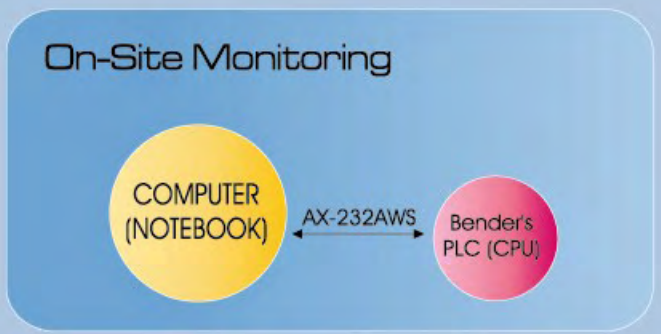




PLC + Touch Screen







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