



SOCO MACHINERY CO., LTD.

#7, 14TH RD. TAICHUNG INDUSTRIAL
PARK. TAICHUNG TAIWAN
TEL : 886-4-23591888
FAX : 886-4-23592386
E-MAIL : sales@soco.com.tw

www.soco.com.tw



**Complete
Solution for
Tube and Pipe**

Booster Tube Benders

Bending + Cutting Automation



SR series - High Speed 1D Booster Benders + Cutoff

PT series - 1D Booster Benders + Wall Thinning Control + Cutoff

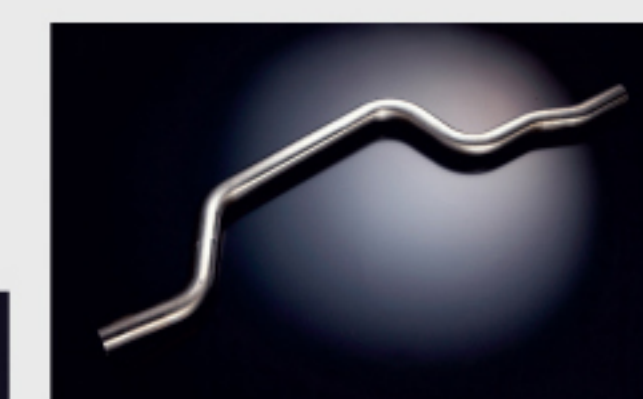
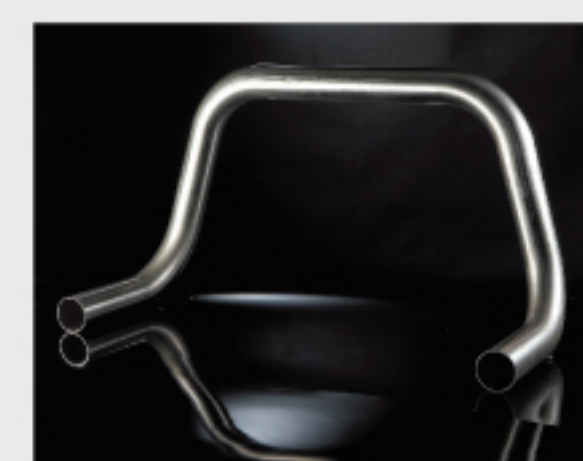


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SR

High Speed Booster Tube Benders

SOCO introduces the most advanced and complete line of Booster Benders for the automotive industry. With machines ranging from O.D.50mm ~ 130mm, this line of booster benders fulfills all needs for the manufacturing of exhaust and tubular systems for cars, motorcycles, trucks and buses.



SR series

High Speed 1D Booster Benders + Cutoff

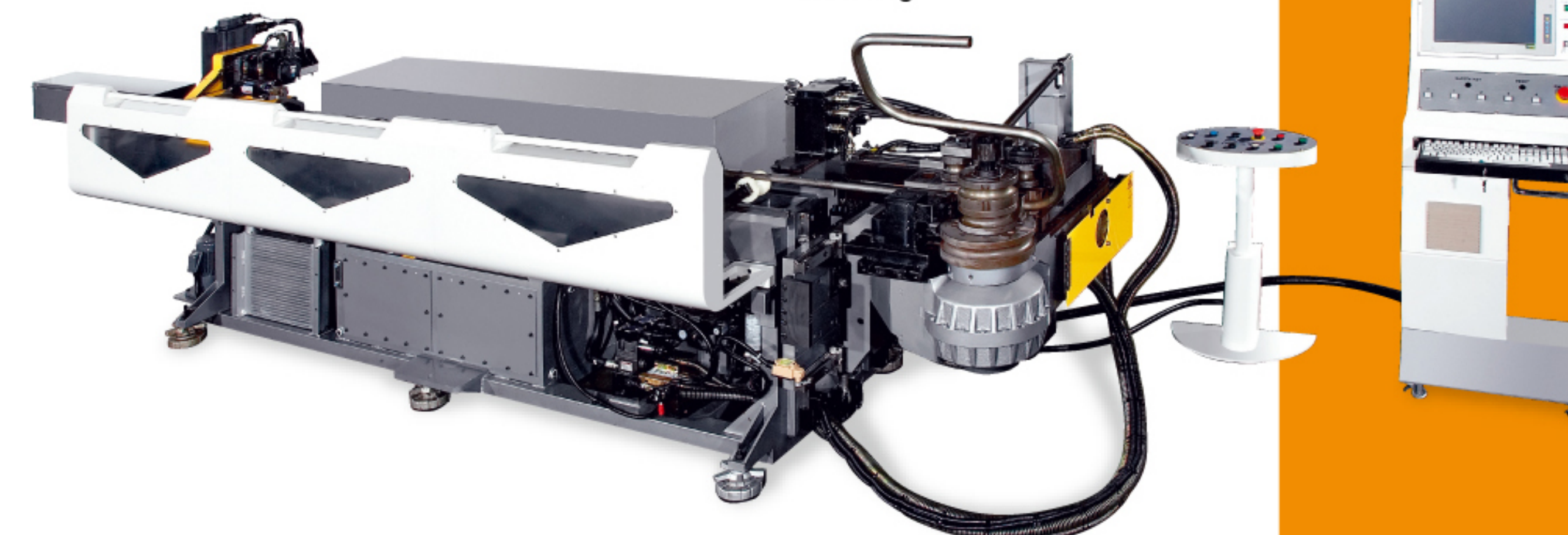
- Ability to make 1D Bending + Draw Bending in the same machine
- Electric Servo Bending or Hydraulic Servo Bending
- Standard with 4 ~ 9 servo controlled axis
- May use from 1 ~ 6 bending stacks, applicable for complex, bend-in-bend parts
- On electric benders, uses SOCO patented **DGT** (Direct Gear Transmission) system for maximum bending efficiency and precision, minimizing transmission points and interference
- May use stackable, Multiple Pressure Dies (4 ~ 8 axis models) or **SPD** (Single Pressure Die) system (7 ~ 9 axis models)
- **2C** - SOCO DBS Cutting System (Double Blade Shearing) – Option for full automation and minimal cutting deformation, as well as smallest cutting radius to minimize waste between bends (Optional)
- May program up to 4 different parts for Bending + Cutting on the same tube
- May use Internal or External collet system (Optional)
- Built-in internet connection and self-diagnostics
- May be connected to SOCO Automatic Loading + Unloading Systems
- May be connected to the SOCO i-Report System for tracking and generating production statistics (Optional)
- **IB** - Interference Zone Booster for short pieces (Optional)

65mm range	80mm range	90mm range	130mm range
SB-63X4A-3S-SR (+2C)	SB-80X4A-3S-SR (+2C)	SB-90X4A-3S-SR (+2C)	SB-130X5B-2S-SR
SB-63X6A-MR-SR (+2C)	SB-80X7A-MR-SR (+2C)	SB-90X7A-MR-SR (+2C)	
SB-63X8A-MR-SR (+2C)			

Due to continuous improvements and designs; the manufacturer reserves the right to modify or make any changes of all models without notice.

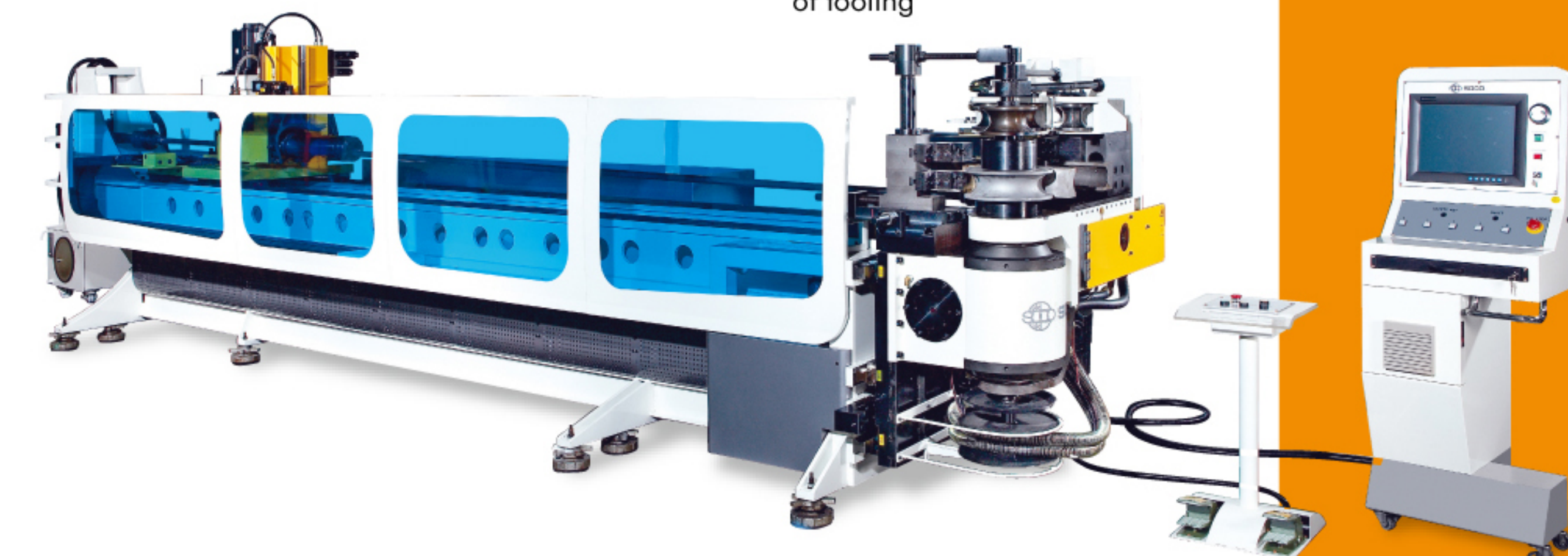
SB-63X4A-3S-SR

High Speed CNC tube bender with capacity up to Ø 63.5mm, 4 electric axis and 1~ 3 stacks of tooling



SB-80X4A-3S-SR

High Speed CNC tube bender with capacity up to Ø 76.2mm, 4 electric axis and 1~ 3 stacks of tooling



PT

Wall Thinning Control Booster Bender

This line of Booster Benders is specially used in the production of manifolds and converter inlet pipes within the automotive exhaust system, where the wall thinning ratio must be controlled to ensure that the tube can withstand the high system pressure.



Ø 50.8mm x 1.5t x 1D
Ø 54.8mm x 1.5t x 1.5D
(18% Wall Thinning Control)

PT series

1D Booster Benders + Wall Thinning Control + Cutoff

- Booster benders capable of bending radiuses of 1xOD and controlling wall thinning during the bending process
- All Electric Bender models available (12 Electric Axis)
- Electric or Hydraulic Proportional Servo Bending
- Boosting power from 10 Tons ~ 22 Tons
- Enables Wall Thinning Rate down to 15% ~ 20%
- On electric benders, this line uses SOCO patented **DGT** system (Direct Gear Transmission) for maximum bending efficiency and precision, minimizing transmission points and interference
- **2C** - SOCO DBS Cutting System (Double Blade Shearing) – Option for full automation and minimal cutting deformation, as well as smallest cutting radius to minimize waste between bends (Optional)
- Standard with 6 ~ 12 servo controlled axis
- May use from 1 ~ 6 bending stacks, applicable for complex, bend-in-bend parts
- May use stackable, multiple pressure dies or single pressure die system
- Short / Last bend boosting system for parts which are bent close to the interference zones
- Clutch (Automatic Transmission) Feeding System, enabling shifting between high speed and high torque (boosting) for highest bending efficiency
- May program up to 4 different parts for bending + cutting on the same tube
- May use Internal or External collet system (Optional)
- **IB** - Interference Zone Booster for short pieces (Optional)

65mm range	80mm range	90mm range	110mm range	130mm range
SB-65X8A-3S-PT (+2C)	SB-80X10A-MR-PT (+2C)	SB-90X10A-MR-PT (+2C)	SB-110X8B-2S-PT	SB-130X8B-2S-PT
	SB-80X12A-MR-PT (+2C)	SB-90X12A-MR-PT (+2C)	SB-110X8B-3S-PT	SB-130X8B-3S-PT

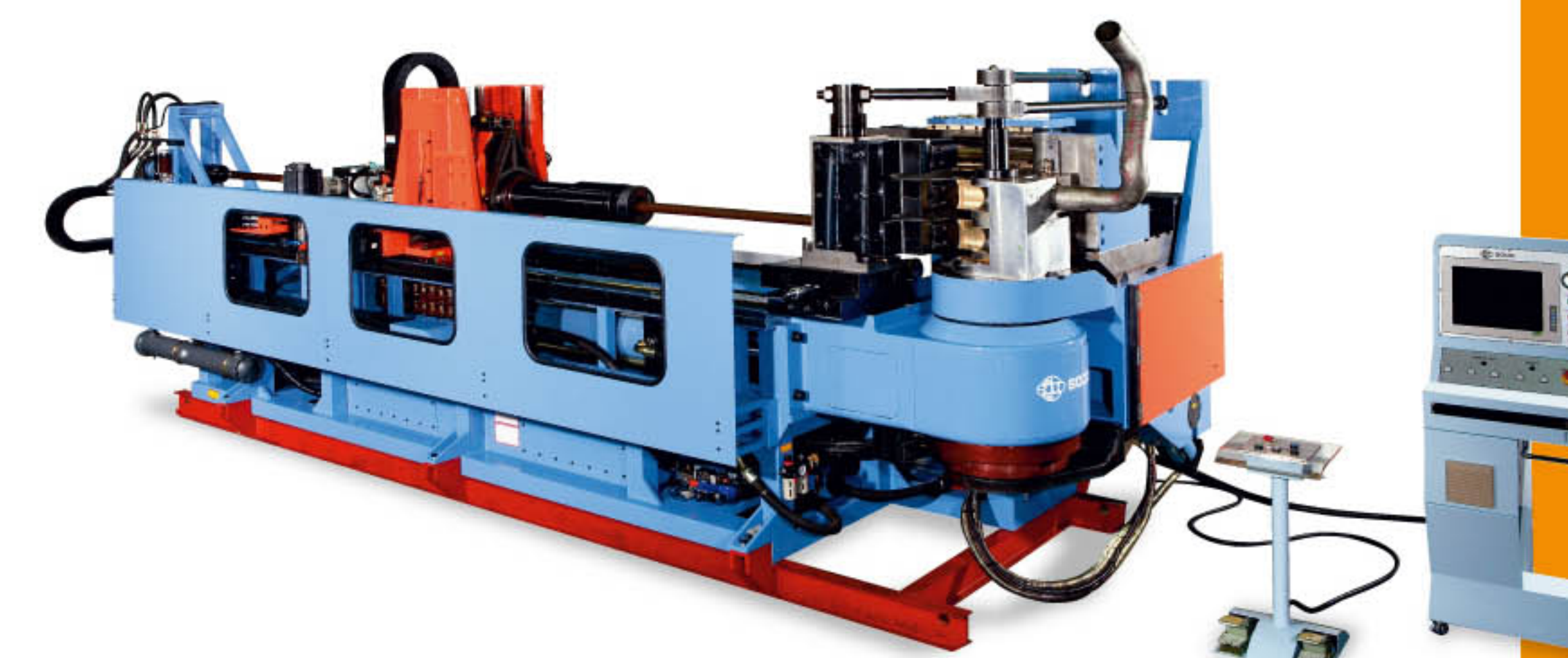
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SB-80x12A-MR-PT+2C
CNC tube bender with capacity up to Ø 76.2mm, 12 electric axis and 1~ 6 stacks of tooling. With SOCO DBS Cutting system

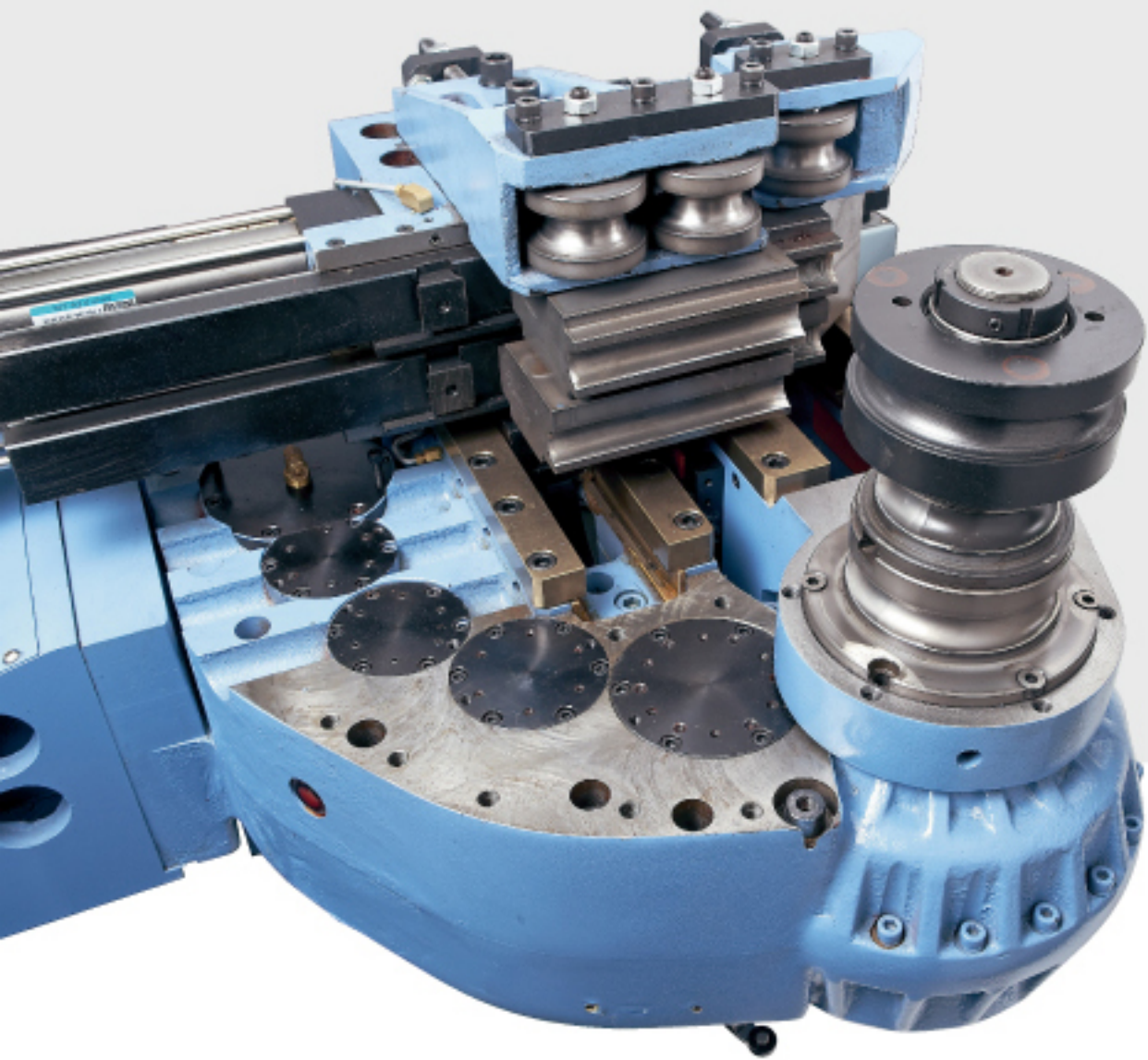


SB-90x12A-MR-PT+2C
CNC tube bender with capacity up to Ø 88.9mm, 12 electric axis and 1~ 6 stacks of tooling. With SOCO DBS Cutting system.



SB-130x8B-3S-PT
CNC Booster bender with capacity up to Ø 127mm, 8 axis and 1~ 3 stacks of tooling. Wall thinning control function.

Advanced DGT



SOCO's unique DGT technology (Direct Gear Transmission) is the worldwide patented bending system that brings you the most efficient and stable bending process, offering the highest accuracy and repeatability in draw and roll bending.

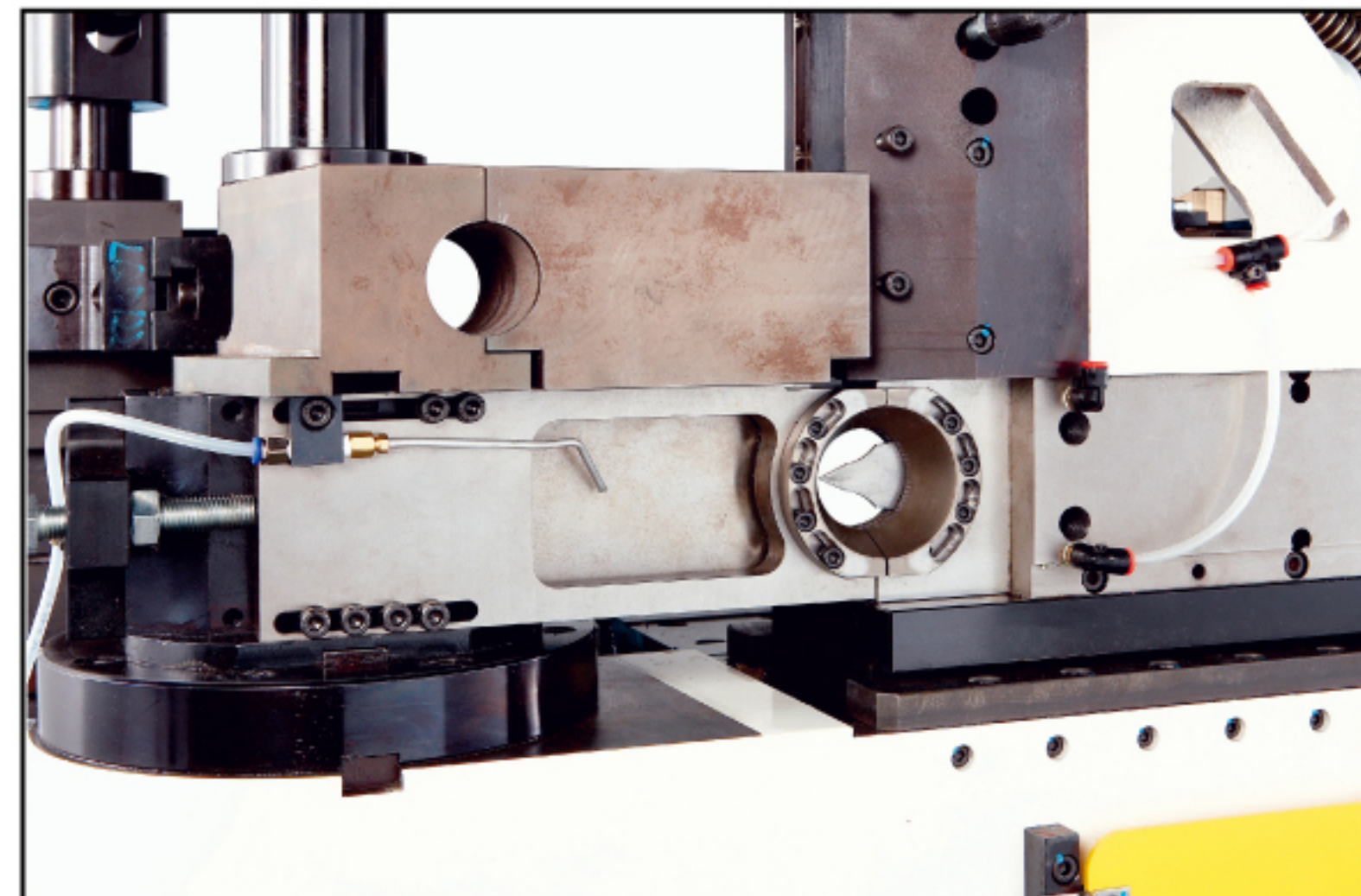
The Advantages of DGT

- Chain free transmission
- Built-in gearbox with direct connection to electric servo
- Highest transmission performance (90%+ efficiency) against other gear based systems
- High bending accuracy ($\pm 0.05^\circ \sim \pm 0.1^\circ$)
- Low noise level
- Maximum Working Area = Minimal Interference
- Elongated neck for superior clearance (***)
- Compact bending head
- Side carriage and bending head (***)
- Lowest maintenance

2C - The SOCO DBS System

This patented Double Blade Shearing System may be implemented on all SOCO Booster benders. Some of the features:

- The Double Blade Shearing System allows for automation of bending and cutting processes in one machine, from a single tube
- This system creates the least amount of cutting deformation, enabling the finished part to be immediately used for a subsequent process without having to calibrate or deburr it
- By bending and cutting continuously, there is virtually no waste between bends, saving vast amounts of material per year
- Savings on space, manpower, machinery and material, while increasing production rates
- Higher precision and quality in finished parts, as the bent part does not need to be manually taken to a separate machine to be cut into pieces on a semi-automatic saw
- The software allows for programming up 4 different parts on the same stock material, maximizing utilization of the complete tube.



DBS System - Perfect Cutting Face



Non-DBS System

Software and Operation Interface

SOCO bending range is available with an Industrial PC (IPC) + Touch Screen (TS version). Here are some of the features included:

Software Features:

- Bending + Cutting Interface
- Automatic springback compensation
- Recapturing function for short lengths
- Data entry for both XYZ and YBC coordinates
- XYZ to YBC coordinates conversion
- YBC to XYZ coordinates conversion
- Arm Return programming mode (Overmode)
- Arc Radius calculator for large radius bending
- Carriage Booster settings' page for 1D Bending
- Ability to use Positive and Gripper Mode Feeding in the same part
- File management for parts and tooling
- Data storage of files (2 million files, 50 bends per file) (*)
- 3D display and rotation of parts
- Mirroring and image reversal of parts
- Elongation ratio + Cycle Time display for each bend
- Windows 2000 / XP platform
- Self diagnostics + Error messages display
- Connection and Auto compensation to CMM systems (**)
- Simultaneous opening of files (4 files at one time)
- Programmable mandrel extraction and mandrel lubrication
- Individually programmable axes
- Multiple built-in action and bending sequences
- Built-in internet connection for Remote troubleshooting

Options

- SOCO Bending Interference and Collision Simulator (***)
- Report system for Production Management
- Reading AUTOCAD files (with Auto LISP)
- Remote monitoring system of bending production

(*) May be extended upon request

(**) On most CMM, non-contact probe measuring systems

(***) On selected CNC tube bender models

