



Complete Solution for
Tube and Pipe

A & V SERIES BENDERS

3-11 Electric Servo Axis

A Series / 3-4 Axis + Draw Bending

V Series / 4-11 Axis + 6 Bending Stacks + Draw + Roll + 1D Bending



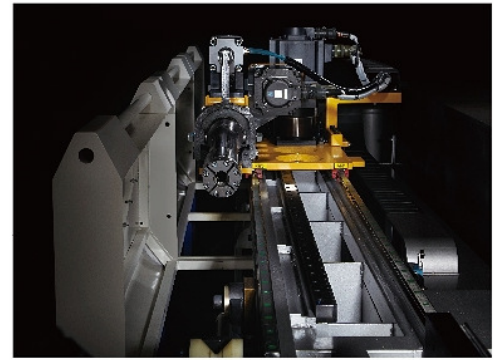
DGT

Advanced DGT

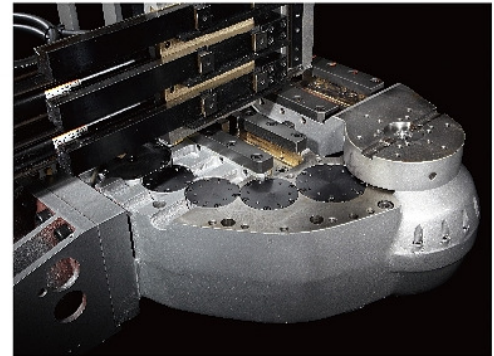
SOCO's unique DGT technology (Direct Gear Transmission) is the worldwide patented bending system that brings you the most efficient and stable bending process, offering the highest accuracy and repeatability in draw and roll bending.

The Advantages of DGT

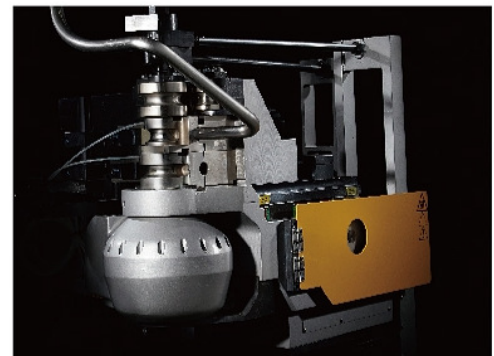
- Chain free transmission
- Built-in gearbox with direct connection to electric servo
- Highest transmission performance (90%+ efficiency)
- High bending accuracy ($\pm 0.05^{\circ} \sim \pm 0.1^{\circ}$)
- Low noise level
- Maximum Working Area = Minimal Interference
- Elongated neck for superior clearance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



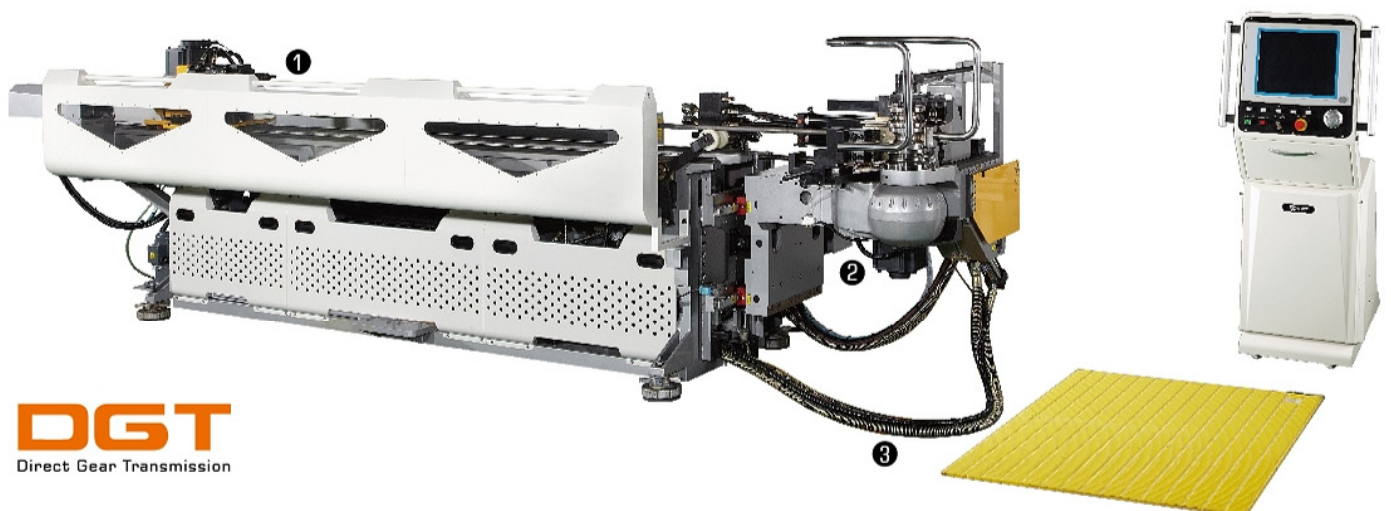
① Side Carriage



② DGT technology



③ Minimal Interference



DGT
Direct Gear Transmission

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 :

- 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 Boost 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
- Ability to edit files while Bending
- Windows 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

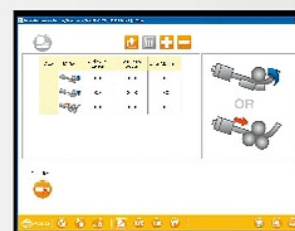
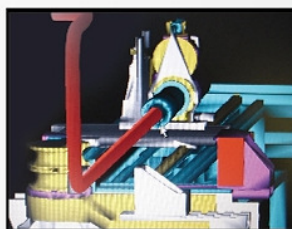
- Bending interference and collision simulator (***)
- Report system for Production Management

(*) May be extended upon request

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

(***) On selected CNC tube bender models

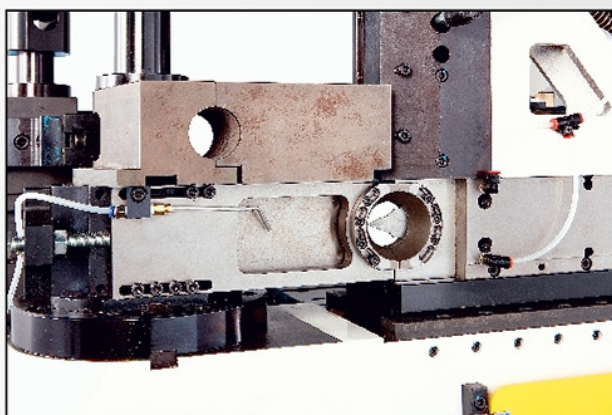
* Due to continuous improvements and designs; the manufacturer reserves the right to modify or make any changes of all models without notice.



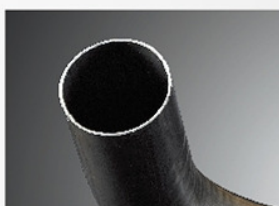
2C The SOCO DBS System

This patented Double Blades Shearing System may be implemented on all SOCO Booster benders (Only for 80mm & 90mm Bender). Some of the features:

- The Double Blades 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.



SOCO Patent - DBS System



DBS System - Perfect Cutting Face



Non-DBS System

A Series

3 - 4 Electric Axis

Draw Bending



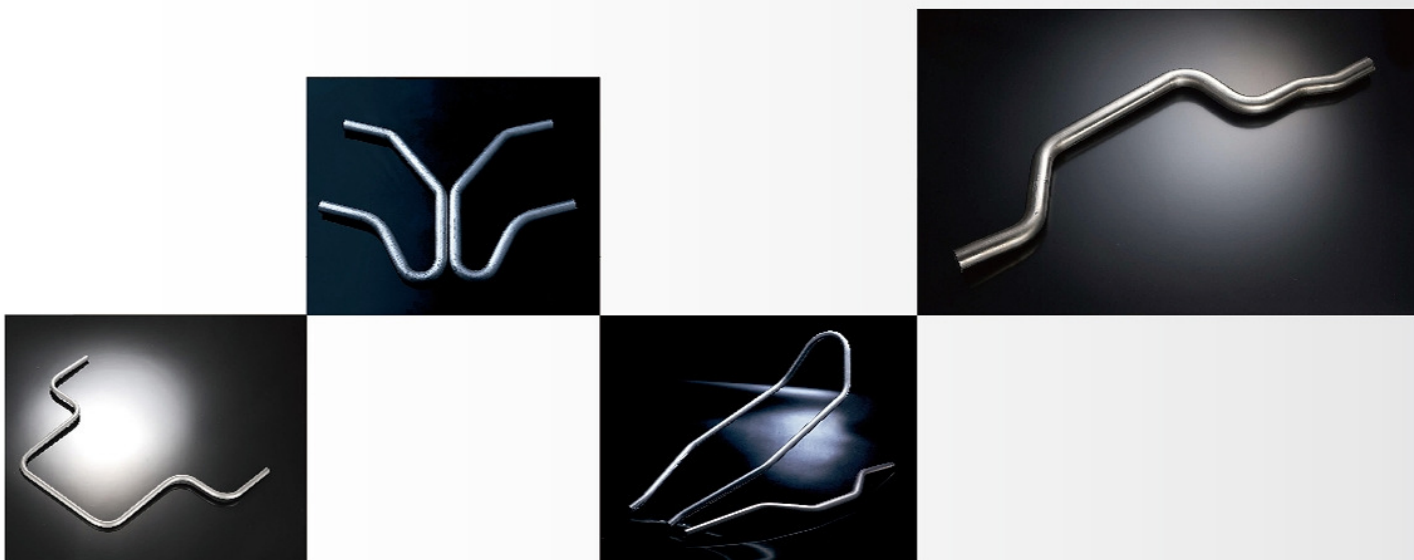
Equipped with 3 ~ 4 electric CNC axis, multiple bending stacks and the unique DGT technology, this line of SOCO tube benders can offer one of highest performance solutions available in the market.

Machine Features:

- With SOCO's unique DGT technology
- Rack pinion feeding
- Side positioned bending head and carriage
- Elongated bending neck
- Electric servo controlled axes
- Centralized greasing for sliding area
- 2 speeds, early mandrel extraction
- Automatic mandrel lubrication
- Touch Screen with IPC (Industrial PC)
- Single or multi-stacks
- Independent pressure die system for each bending stack
- Wiper die seat and lubrication
- May be equipped with optional Automatic Loading System (AF) and Automatic Unloading System (AUL)
- 80mm and 90mm range may be equipped with SOCO DBS system (2C – Double Blades Shearing) (Optional)
- All Electric: SB-12x3A-2S

SPECIFICATIONS

Specifications / Model	SB-12x3A-2S	SB-19x3A-2S	SB-30x4A-2S	SB-39x3A-1S SB-39x4A-2S	SB-51x4A-2S	SB-63x4A-2S	SB-80x4A-2S	SB-90x4A-2S
Mild Steel Capacity (mm) (CLR 1.5D)	Ø10.0 x 1.2t	Ø19.05 x 1.0t	Ø30.0 x 1.5t	Ø38.1 x 3.2t	Ø50.8 x 2.8t	Ø63.5 x 2.5t	Ø76.2 x 2.0t	Ø88.9 x 2.5t
Stainless Capacity (mm) (CLR 1.5D)	Ø8.0 x 0.9t	Ø16 x 1.0t	Ø25.4 x 1.2t	Ø38.1 x 2.2t	Ø50.8 x 2.0t	Ø63.5 x 2.0t	Ø76.2 x 1.5t	Ø88.9 x 1.6t
Max. Tube Length With Mandrel (mm)	1650	2300	2670	3000 (1S) 3850 (2S)	3700	3700	4600	4600
Max. Draw Bending Radius (mm)	60	80	120	180	250	250	250	250
Max. Bending Radius Difference (R1-R2) (mm)	25	30	38	50 (2S)	75	75	80	80
Bending Accuracy	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°
Rotation Accuracy	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°
Feeding Accuracy (mm)	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1°
Machine Dimension (mm) (L x W x H)	2170 x 800 x 1140	3100 x 900 x 1200	3380 x 950 x 1200	4430 x 1580 x 1270 (1S) 4800 x 1340 x 1280 (2S)	5000 x 1400 x 1500	5000 x 1500 x 1500	7000 x 2300 x 2000	7000 x 2300 x 1700
Gross Weight (Kg)	1100	1400	1700	2650 (1S) 2850 (2S)	4000	4200	9000	10500



SB-19X3A-2S

CNC tube bender with capacity up to $\varnothing 19.05\text{mm}$.
3 electric axes and 1~2 stacks of tooling



SB-63X4A-2S

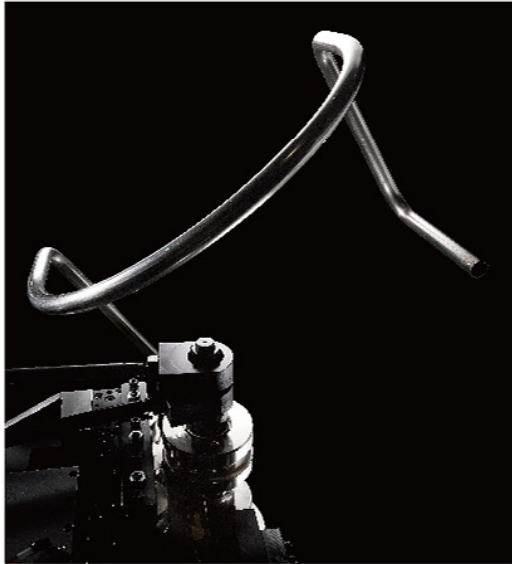
CNC tube bender with capacity up to $\varnothing 63.5\text{mm}$.
4 electric axis and 1~ 2 stacks of tooling.

V

Series

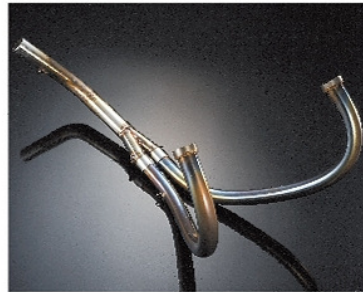
4-11 Electric Axis

Draw+Roll+1D Bending



The V series CNC tube benders combine Draw, Roll and 1D Bending technology. This combination allows 2 different fixed radiuses and multiple large roll bending radiuses in a single part, as well as a programmable carriage boost for CLR = 1D Bending. Coupled with Individual Pressure Die Systems assist in each draw bending stack, it brings superior performance and flexibility.

The MRV series tube bender offers small radius bending + Roll bending + 1D Bending +6 stacks in the same machine.



SPECIFICATIONS

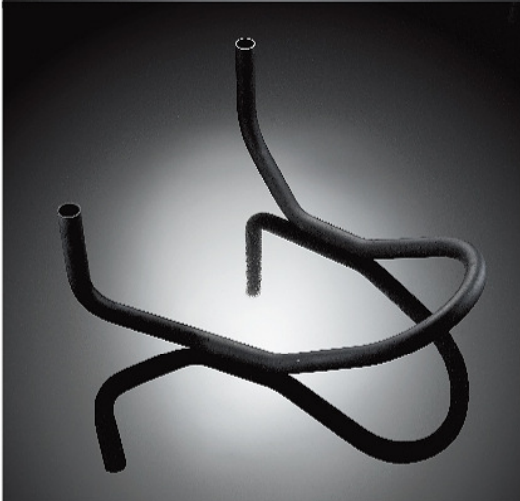
Specifications / Model		SB-20X4A-3SV	SB-30X4A-3SV SB-30X5A-MRV SB-30X6A-MRV	SB-39X4A-3SV SB-39X6A-MRV SB-39X9A-MRV	SB-51X4A-3SV	SB-63X4A-3SV SB-63X5A-MRV SB-63X6A-MRV	SB-80X4A-3SV SB-80X8A-MRV SB-80X11A-MRV	SB-90X4A-3SV SB-90X8A-MRV	
Mild Steel Capacity (mm) (CLR 1.5D)		Ø20 X 1.2t	Ø30.0 X 1.5t	Ø38.1 X 3.2t	Ø50.8 X 2.8t	Ø63.5 X 2.5t	Ø76.2 X 2.0t	Ø88.9 X 2.5t	
Stainless Capacity (mm) (CLR 1.5D)		Ø16X 1.2t	Ø25.4 X 1.2t	Ø38.1 X 2.2t	Ø50.8 X 1.9t	Ø63.5 X 2.0t	Ø76.2 X 1.5t	Ø88.9 X 1.6t	
MRV Type Die Arrangement (mm)	6 Stacks	---	Ø10 ~ Ø5	Ø15.875 ~ Ø22.2	---	~ Ø 25.4	---	~ Ø44.5	
	5 Stacks	---	Ø15 ~ Ø10	Ø22.2 ~ Ø28.575	---	Ø25.4 ~ Ø31.75	~ Ø32	Ø47.6 ~ Ø63.5	
	4 Stacks	---	Ø20 ~ Ø15	Ø28.575 ~ Ø38.1	---	Ø31.75 ~ Ø44.45	Ø35 ~ Ø51	Ø69.85 ~ Ø88.9	
	3 Stacks	---	Ø30 ~ Ø20	---	---	Ø44.45 ~ Ø63.5	Ø54 ~ Ø76.2	---	
Max. Tube Length With Mandrel (mm)		2070	2670	3850	3700	3700	4600	4600	
Max. Draw Bending Radius (mm)		80	120	180	250	250	250	250	
Max. Bending Radius Difference (R1-R2)		30	38 / 30 / 30	50 / 50 / 30	75	75 / 75 / 30	80 / 50 / 50	80 / 80	
Bending Radius	Draw Bending	Round Tube	1.5D ~ 4D	1.5D ~ 4D	1.5D ~ 5D	1.5D ~ 5D	1.5D ~ 5D	1.5D ~ 3.3D	
		Rectangular Tube	2.5D ~ 4D	2.5D ~ 4D	2D ~ 5D	2D ~ 5D	2D ~ 5D	2.5D ~ 3.3D	2.5D ~ 3.3D
	Roll Bending (1)	Round Tube	6D ~ ∞	6D ~ ∞	6D ~ ∞	6D ~ ∞	6D ~ ∞	8D ~ ∞	8D ~ ∞
		Rectangular Tube	8D ~ ∞	8D ~ ∞	8D ~ ∞	7D ~ ∞	8D ~ ∞	12D ~ ∞	12D ~ ∞
1D Bending		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Max. Bending Angle		190°	190°	190°	190°	190°	190°	190°	
Machine Dimension (mm) (L x W x H)	3SV Type	2780x950x1200	3380x900x1200	4800x1340x1280	5000x1500x1500	5000x1400x1500	7000x1650x2000	7000x2100x1700	
	MRV Type	---	3890x950x1200	4700x1350x1220	---	5100x1600x1500	7000x2100x1700	7000x2100x1700	
Gross Weight (Kg)		1500	1800	3500	4500	5500	9500	10500	

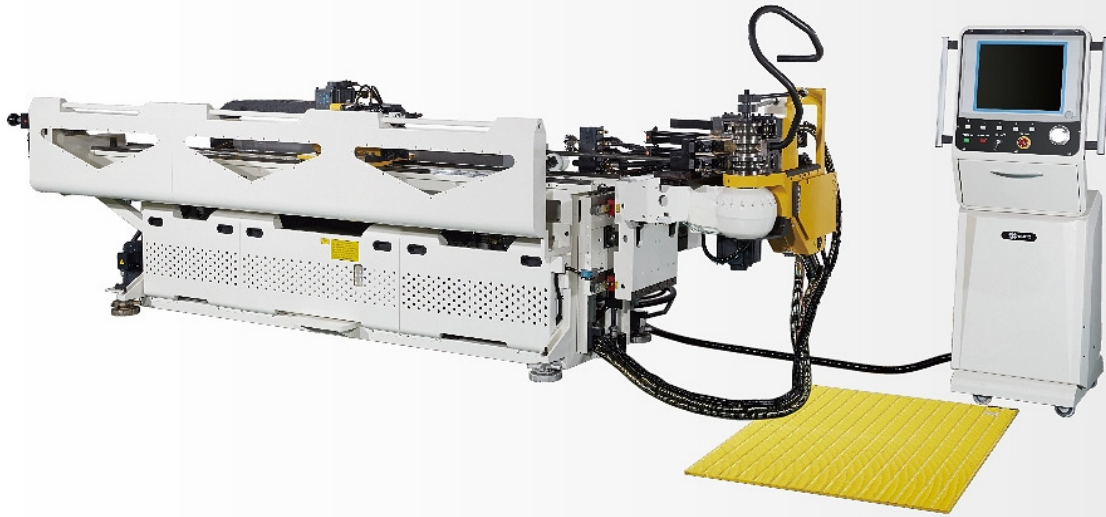


Machine Features:

- With SOCO's unique DGT technology
- Rack pinion feeding
- SOCO Proprietary Operation Software
- Multi-stacks for Draw and Roll (Large Radius) bending
- Programmable Boosting Force for 1D Bending (*)
- Ability to bend parts with "0" straight lengths
- Programmable arc lengths for large radiuses
- Roll Bending Springback compensation settings
- Special bending compensation and data storage fields
- Low noise level with highest transmission performance
- 80mm and 90mm range may be equipped with SOCO DBS system
(2C – Double Blades Shearing) (Optional)
- All Electric: SB-39x9A-MRV
SB-80x11A-MRV

(*) in accordance to material's elongation ratio





SB-39X4A-35V+Punching

CNC tube bender with capacity up to Ø 38.1mm, Draw and Roll bending, 4 electric axes and 3 stacks of tooling. Equipped with "Punching" function.



SB-39X9A-MRV

CNC tube bender with capacity up to Ø38.1mm. All electric servos(9 Axis), with up to 6 stacks of tooling with Draw and Roll + 1D tube bending.

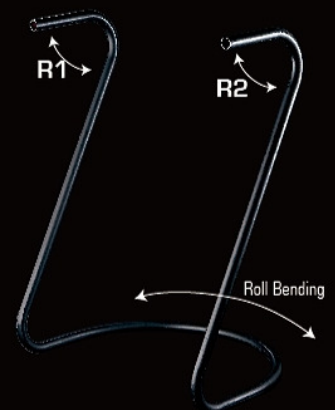
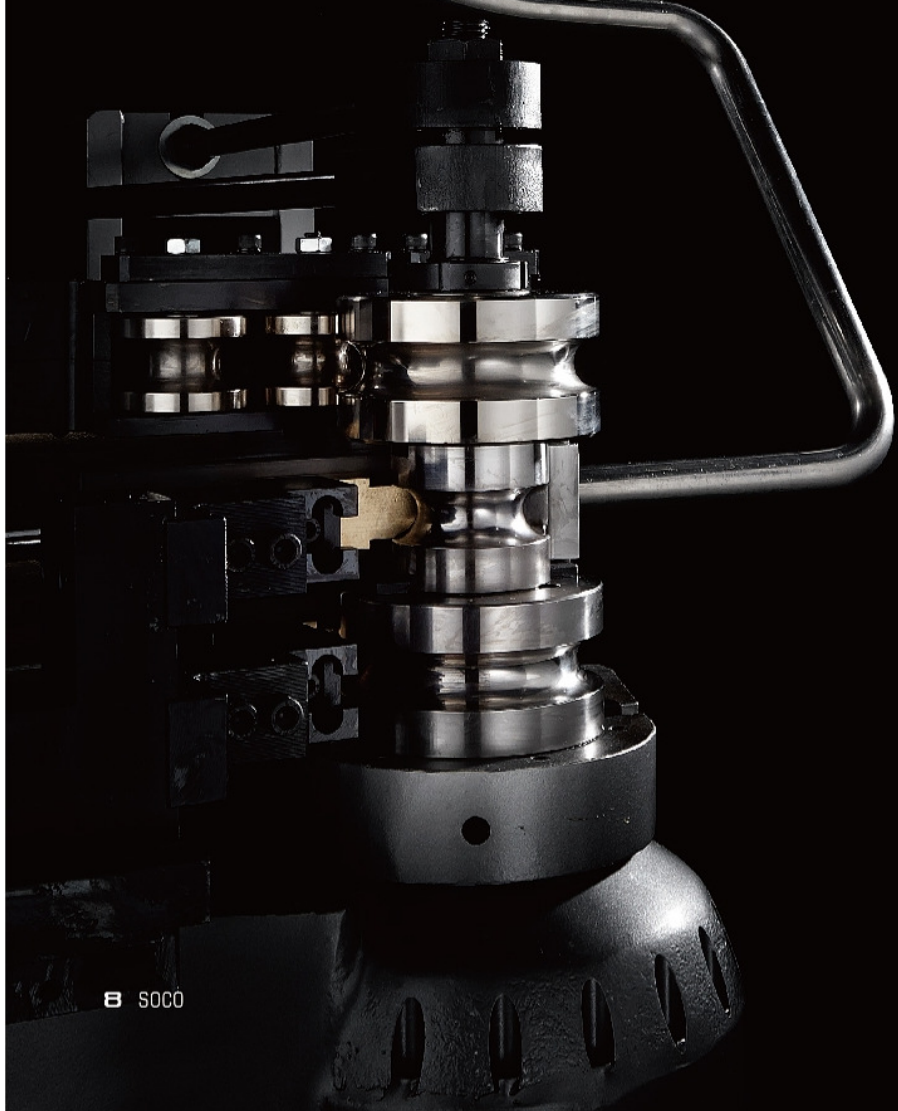
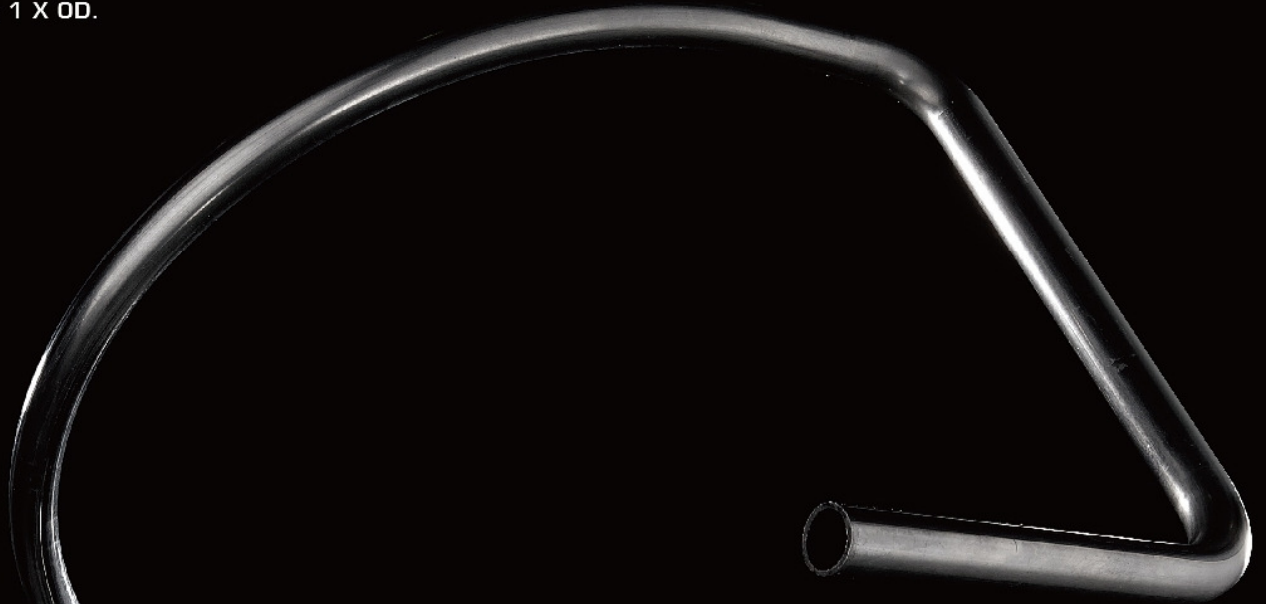


SB-80X11A-MRV

CNC tube bender with capacity up to Ø76.2mm, Draw and Roll + 1D bending, 11 electric axis and 6 stacks of tooling. Optional "SOCO DBS system"

Draw + Roll +1D Bending

The technology can create a part which has multiple draw bending radiuses (R1 & R2), while creating a larger radiuses through the roll bending process. Coupled with a settable carriage booster, it allows bending radiuses as small as 1 X OD.





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