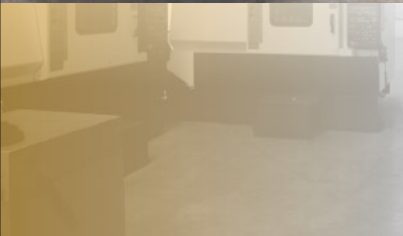




bossray®

YOUR MACHINERY EXPERT WHO FOCUS ON HIGH QUALITY AND SERVICE

BOSSRAY INTERNATIONAL GROUP LIMITED (HONGKONG)
BOSSRAY MACHINERY INC
SUZHOU BOSSRAY MACHINERY CO., LTD



introduction>>

Bossray Machinery Inc. was formed with the vision of becoming a leading exporter of machines and engineering products in the world. We believe that long term partnership is a result of high quality, value added service, rich experience and personal contact for better understanding of our customers' requirements.

Bossray holds shares in four machinery manufacturing companies as well as office in Hong Kong and Canada. Owing to good service, a variety of high quality machines, competitive prices and efficient delivery, we enjoy a good reputation among our customers. We are an energetic company with wide market. Currently, our machines are exported to Canada, USA, Mexico, Brazil, Chile, Argentina, Ecuador, Korea, Vietnam, Singapore, Thailand, Malaysia, Philippines, Indonesia, Bangladesh, India, Kazakhstan, Pakistan, Afghanistan, Iran, Turkey, Saudi Arabia, Australia, New Zealand, South Africa, Egypt, Russia, Poland, England, Greece, Czech, Denmark, France, etc.,

Bossray Advantages:

- 19 years of experience in machinery and engineering industry;
- More than 3,000 machines and solutions in 33 countries;
- Excellent support for product development and cost management;
- Well trained team for inspection and quality assurance;
- Wide network with versatile manufacturers;
- Help in consolidation of shipments from various suppliers to save the transportation costs and have documentation, we have separate logistic company.
- Support by world class machines and solutions to improve your manufacturing process.

Bossray Machinery Inc. includes:

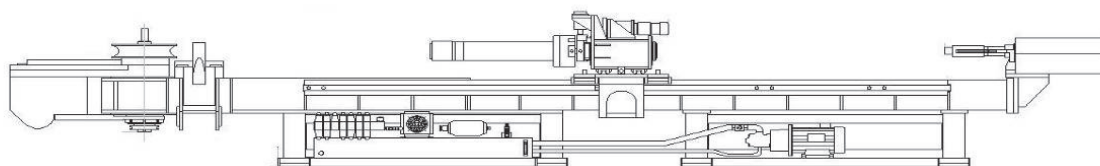
Bossray International Group Limited
Suzhou Bossray Machinery Co., Ltd.
Changzhou Bossray International Co., Ltd.
Yuanyang Machinery Co., Ltd.
Zhongyuan Machinery Co., Ltd.
Jiangsu Henxiang Logistic Taizhou Branch

bossray®

Tube Bender CNC Series

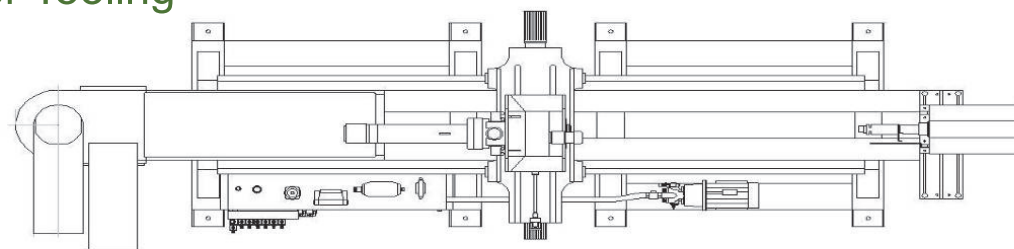
- ◆ It is fully automatic pipe bending machine, with PLC control system, two (or three or more) servo for rotary, feeding (and bending), touch screen panel display English, have different bending degree prefabricate, dialogue operation, can choose manual, semi-automatic and full automatic operation mode, portable pedal switch with start and emergency stop function. Multi axes working simultaneously.
- ◆ Diagnosis error immediately.
- ◆ One key back up of programs for USB or disk storage.
- ◆ Security code for the protection of data setting and selected operation features.
- ◆ Bending pipe — Automatic. Rotating pipe — Automatic. Feeding pipe — Automatic.
- ◆ All the parts of hydraulic system, control system, driver system and display system are imported from famous brand, with high accuracy, highly efficient, suitable for mass production.
- ◆ To access to the history bending setting data to the facilitate study of malfunction with one set of tooling.
- ◆ CNC fully automatic, have cubical space bending equipment, loading the whole bending process is automatic.
- ◆ The machine has convenient operation, stable performance and high safety factor. The machine is the ideal choice for the pipe processing.
- ◆ Industrial PC assorted with touch screen display, capable of 3D bending simulation, 3D preview and collision prevention

↓ 5 Axis Servo



SB-63CNC-5A-3S ← 3 Layer Tooling

↑ Max. Bending Capacity



bossray®

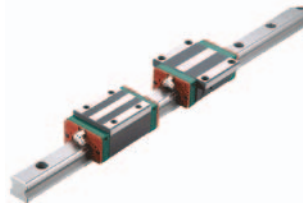
Tube Bender CNC Series



Mandrel for low oval rate and low wall thickness reduction



PC control Windows XP, 3D simulation function



linear guide from Taiwan Hiwin

One key back up of programs for USB or disk storage or through INTERNET

Tie rod to the clamping unit

Multiple Tooling Stack

Hydraulic or Electric Bending Tube



Japan Mitsubishi
Servo Motor, automatic rotating tube
Servo Motor, automatic feeding tube



Servo Motor Bending Available



Import from france
schneider Electrical



Central Automatic lubrication system

Foot pedal for safety start

bossray[®]

Tube Bender CNC Series

CNC (25~219) - 2A, with 2 axis servo, Hydraulic Bending, Electric Rotating, Electric Feeding :



SB-38CNC-2A-1S



SB-63CNC-2A-1S



SB- 100CNC-2A-1S

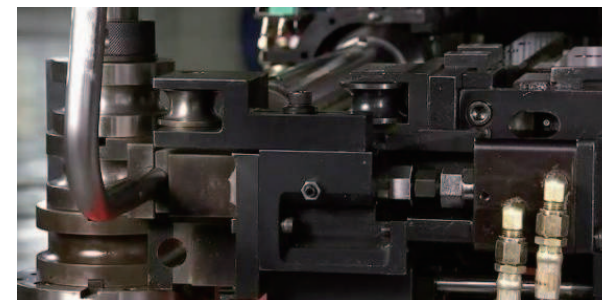


SB- 130CNC-2A-1S

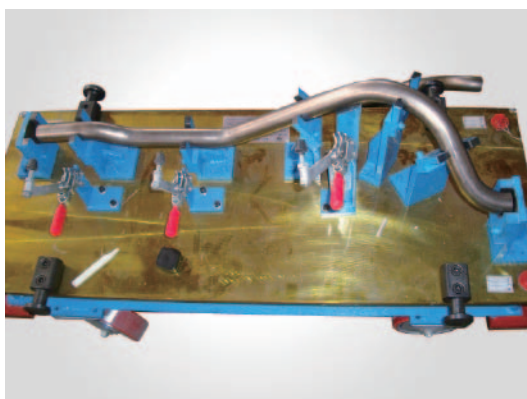
bossray®

Tube Bender CNC Series

CNC (18~168) - 3A , with 3 axis servo, Electric Bending, Electric Rotating, Electric Feeding :



With 3 layer Tooling



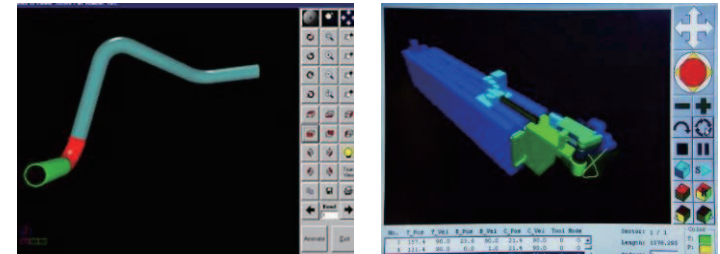
bossray®

Tube Bender CNC Series

CNC (18~168) - 3A , with 3 axis servo, Electric Bending, Electric Rotating, Electric Feeding :



SB- 89CNC-3A-1S



Easy to control with the touch screen



SB- 115CNC-3A-2S

bossray®

Tube Bender CNC Series

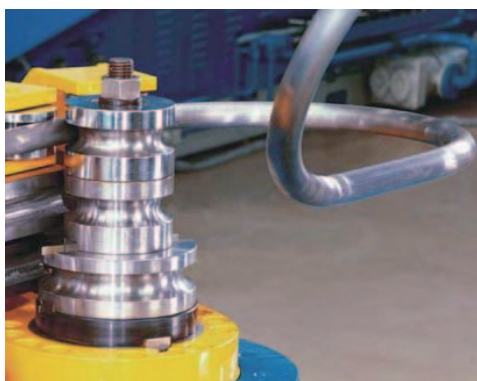
CNC (18~115) - 4A , with 4 axis servo, Electric Bending, Electric Rotating, Electric Feeding :



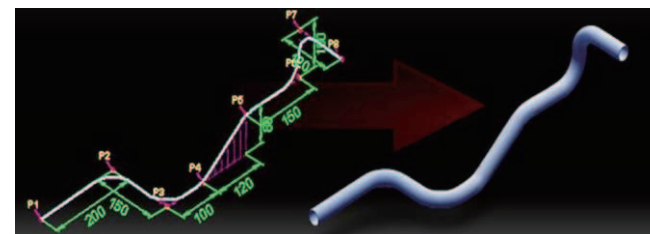
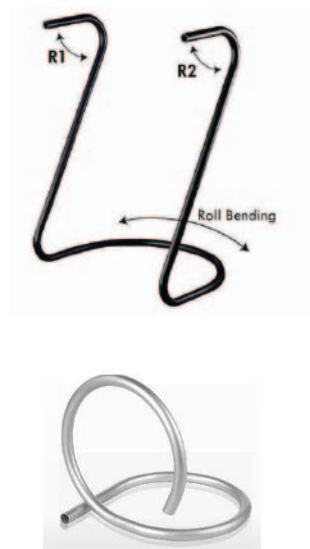
SB-75CNC-4A-3S



SB-115CNC-4A-3S



Roll/Push Bending through Positioner
Driven by Servo Motor
With 3 layer Tooling

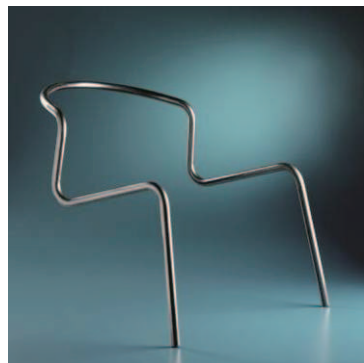


High Accuracy of Bending $\pm 0.05^\circ$

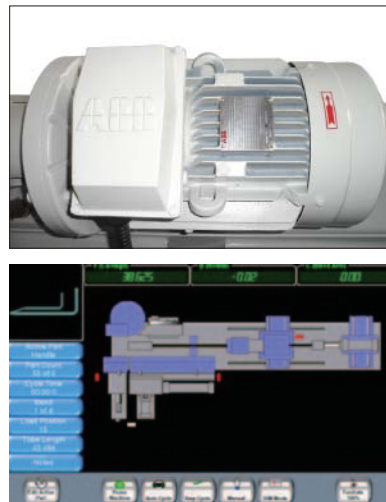
bossray[®]

Tube Bender CNC Series

CNC (18~75) - 5A , with 5 axis servo, Electric Bending, Electric Rotating, Electric Feeding :



Industry Computer



bossray®

Tube Bender CNC Series

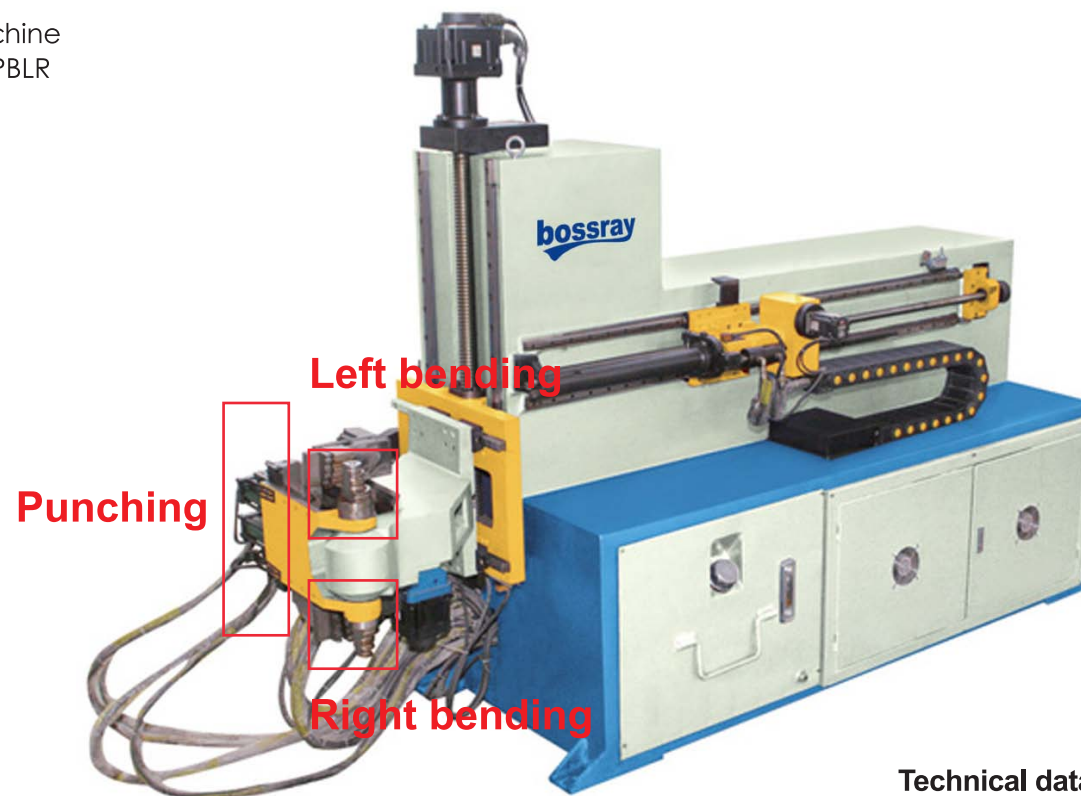
CNC (18~75) - 5A , with 5 axis servo – Left and right hand bending :



bossray®

Tube Bender CNC Series

Punch & Bend Machine
SB-(18 to 75) CNC-PBLR



Features / Equipment :

- ◆ Push bend device
Suitable for the bending radius bigger than 6D.
Servo feeding device pushes tube forming the the bigger radius and 3D curvature shape.
- ◆ Hole punching device
Able to exchange 2nd stack via bending device or hole punching device.
To make hole punching & bending process at one operation, avoiding 2nd processing jobs on drill.
- ◆ Punching cut device
The bottom stack set with punching cut device.
Tube bending & punching cut at one operation, avoiding 2nd processing jobs and material waste.
- ◆ With left & right hand bending function
- ◆ Controlled by industrial computer.

Technical data :

Max. capacity $\Phi 75 \times 4 \text{mm}$
Range of bending radius 30-300mm
Bending accuracy $\pm 0.1^\circ$



With punching function

Cut & Bend Machine SB-19 CNC-CB (For tubes up to $\Phi 19\text{mm}$)



Features / Equipment :

- ◆ The benefit of this combined working process, is the ability to incorporate different working operations in a single and specific production process i.e. straightening, end-forming, de-burring, bending and cut-off.
- ◆ The PLANET can also be configured, with different modules, to allow optional operation cycles rather than the complete production process from straightening to unloading e.g. cutting or bending or end-forming only.
- ◆ With a max. capacity of O.D. 19 mm the Planet is available with Compression or Rotary Draw Bending, Left & Right-Hand dual-stack bending with the option to combine both types of bending in the same automatic cycle, with two different radii.
- ◆ It is particularly suitable for the complex shapes typical of small tubing of the automotive (hydraulics, air conditioning, fuel pipes), air conditioning and heating, refrigeration.
- ◆ The work centre performance is dependably controlled by a CNC Siemens 810D.

Technical data :

De-coiling unit
Saw blade cutting unit
Internal or external swarfless orbital cutting device
4 or 6 in-line ram forming station and one rotary



bossray®

Tube Bender CNC Series

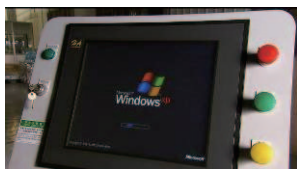
Tube Bender CNC Series

Model	SB- 18CNC	SB- 25CNC	SB- 38CNC	SB- 50CNC	SB- 63CNC	SB- 75CNC	SB- 89CNC	SB- 100CNC	SB- 115CNC	SB- 130CNC	SB- 168CNC	SB- 189CNC	SB- 219CNC
	-3A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S	-2A-1S
	-4A-3S	-3A-1S	-3A-1S	-3A-1S	-3A-1S	-3A-1S	-3A-1S	-3A-1S	-3A-1S	-3A-1S	-3A-1S	-3A-1S	-3A-1S
	-5A-2S	-4A-3S	-4A-3S	-4A-3S	-4A-3S	-4A-3S	-4A-3S	-4A-3S	-4A-2S	-4A-2S	-4A-2S		
	-5A-3S	-5A-2S	-5A-2S	-5A-2S	-5A-2S	-5A-2S	-5A-2S	-5A-2S					
	-5A-3S	-5A-3S	-5A-3S	-5A-3S	-5A-3S	-5A-3S	-5A-3S	-5A-3S					
Bending Capacity	Φ18X2 mm	Φ25X1.6 mm	Φ38X2 mm	Φ50X3 mm	Φ63X3 mm	Φ75X4 mm	Φ89X6 mm	Φ100X8 mm	Φ115X10 mm	Φ130X12 mm	Φ168X14 mm	Φ189X14 mm	Φ219X16 mm
Range of Bending Radiu	5-80 mm	5-100 mm	15-190 mm	15-260 mm	25-270 mm	30-300 mm	30- 350 mm	40-400mm	50-450mm	50-500 mm	50-550 mm	80-650 mm	80-700 mm
Max.Bending Degree	195°	190°	190°	190°	190°	190°	190°	190°	190°	190°	190°	190°	190°
Mandrel Length	1500 mm	2200 mm	2500 mm	2800 mm	3000 mm	3200mm	3200mm	3500 mm	3800mm	4300 mm	5000 mm	6000 mm	6000 mm
Touch Screen	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview	Taiwan Weinview
Bending Accuracy	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°
Rotating Accuracy	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°	±0.1°
Feeding Accuracy	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm
Rotating Servo Motor	0.4 Kw	0.4 Kw	0.75 Kw	0.75 Kw	0.75 Kw	1 Kw	1.5 Kw	1.5 Kw	2 Kw	2 Kw	3.5 Kw	5 Kw	5 Kw
Feeding Servo Motor	0.75 Kw	0.75 Kw	1 Kw	1 Kw	1 Kw	1.5 Kw	2 Kw	3.5 Kw	3.5 Kw	5 Kw	5 Kw	7 Kw	7 Kw
Bending Method	Servo Bending	Servo Bending/ Hydraulic Bending	Servo Bending/ Hydraulic Bending	Servo Bending/ Hydraulic Bending	Servo Bending/ Hydraulic Bending	Servo Bending/ Hydraulic Bending	Servo Bending/ Hydraulic Bending	Servo Bending/ Hydraulic Bending	Hydraulic Bending	Hydraulic Bending	Hydraulic Bending	Hydraulic Bending	Hydraulic Bending
Motor Power	pneumatic	3 Kw	4 Kw	5.5 Kw	5.5 Kw	7.5 Kw	11 Kw	11 Kw	15 Kw	22 Kw	22 Kw	30 Kw	30 Kw
Oil Pressure	10 Mpa	12 Mpa	12 Mpa	12 Mpa	12 Mpa	12 Mpa	12 Mpa	14 Mpa	14 Mpa	14 Mpa	16 Mpa	16 Mpa	16 Mpa
Weight	850 Kg	1000 Kg	1600 Kg	2600 Kg	3500 Kg	4600 Kg	5700 Kg	6000 Kg	8000kg	10000kg	13000kg	15500 Kg	18500 Kg
Size	2800x700x 1000 mm	3000x760x 1100 mm	4000x 900 x 1200mm	4200x1000x 1250mm	4600x1100x 1250mm	5000x1200x 1300 mm	5300x1400x 1400mm	5600x1450x 1450mm	6000x1500x 1500mm	6500x1600x 1550mm	8300x1800x 1700 mm	8600x2000x 1700 mm	8700x2500x 2000 mm

bossray®

Tube Bender CNC Series

CNC Series Configuration :



- ◆ Touch screen, Industry PC With 3D simulation function From Taiwan **Weinview**



- ◆ Servo motor from Japan **Mitsubishi**



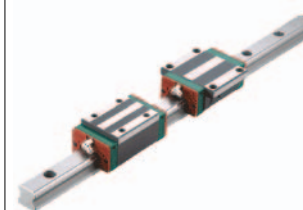
- ◆ Encoder from Japan **Nemicon**



- ◆ Thermal overload relay from France **Schneider**



- ◆ Electromagnetic directional valve from Japan **YUKEN**
- ◆ Option: Germany Bosch



- ◆ Linear guide from Taiwan **Hiwin**



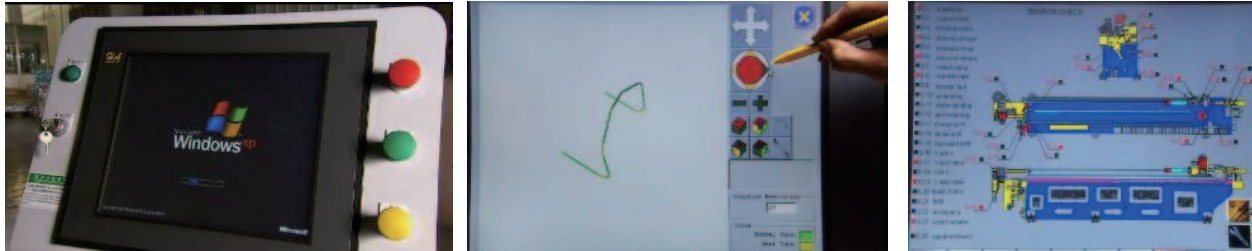
- ◆ Reducer—Taiwan PHT
- ◆ Oil pipe—Jiangsu Kejia
- ◆ PCB—Shanghai Yuexing
- ◆ Throttle valve—Japan YUKEN
- ◆ Spillover valve—Japan YUKEN
- ◆ Servo Driver—Japan Mitsubishi
- ◆ Sealing element—Japan NOK
- ◆ Proximity switch—Taiwan Tiande

- Rack—Germany Atlanta
- Manometer—Dongya Yibiao
- Foot switch—Taiwan Mingwei
- Oil pump motor—SIEMENS
- Machine control transformer—Jiuchuan Group
- Vane pump—NOVA (Sino- American joint venture)
- PLC(Programmable logic controller)—Japan Mitsubishi
- AC contactor/Fuse/Power Switch—France Schneider Electrical

bossray[®] Tube Bender CNC Series

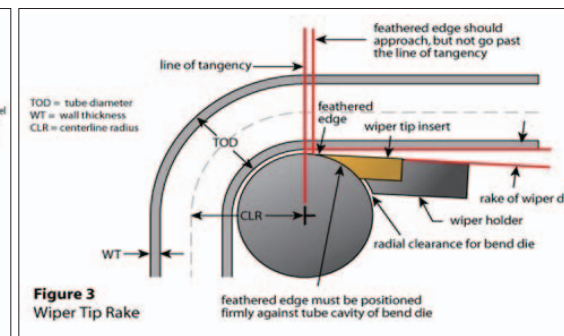
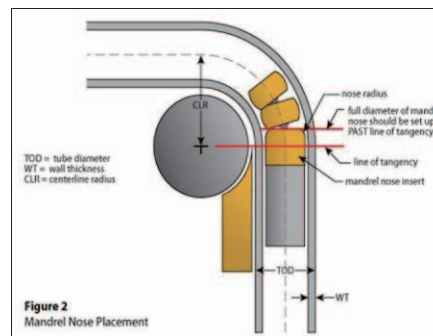
Note: CNC machine can be added these function (According to customer' s requirement) :

- ◆ Industrial PC assorted with touch screen display, capable of 3D bending simulation, 3D preview and collision prevention.

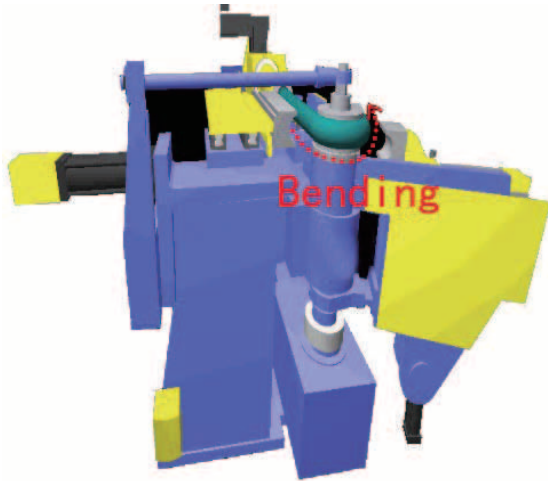


- ◆ Can be with 4 axis, 5 axis, 6 axis, 7 axis, all by servo motor, electric bending tube.

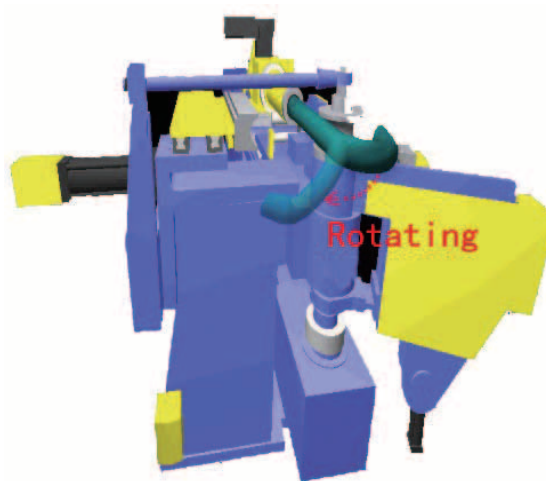
NC, NCMP, CNC Tube Bender Tooling / Die of Bending:



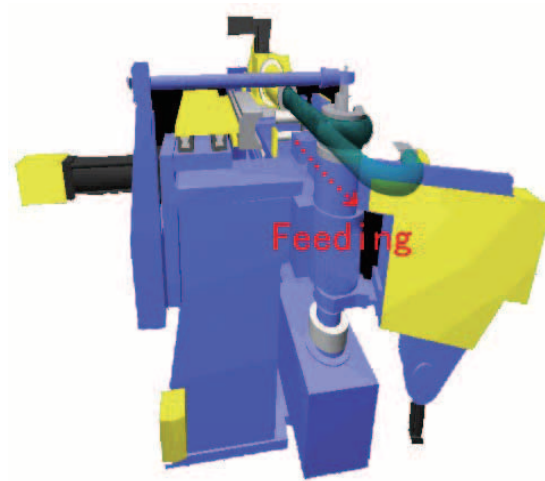
The comparison of NC,NCMP,CNC Series :



NC: Automatic
NCMP: Automatic
CNC: Automatic

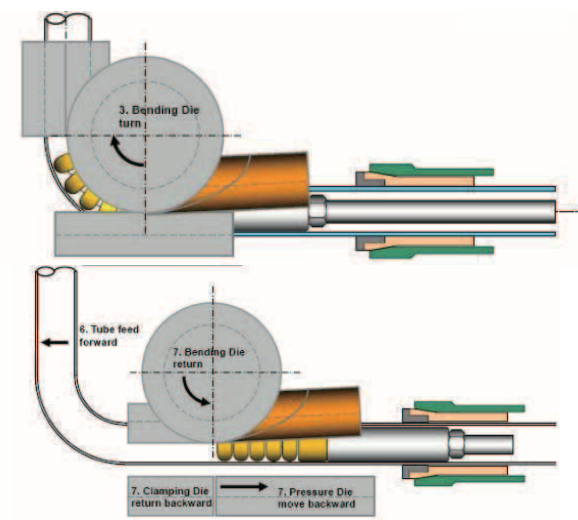
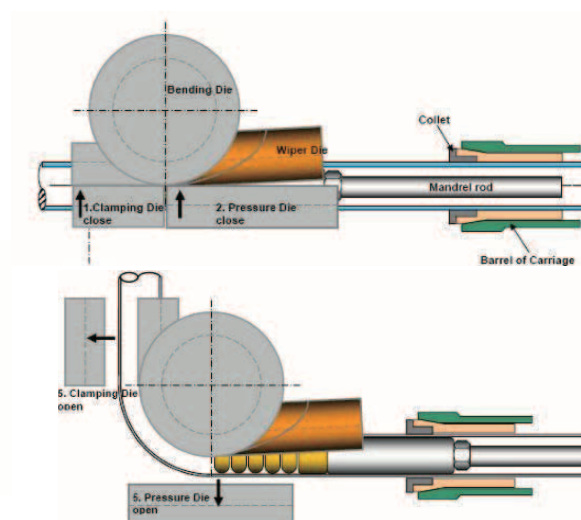
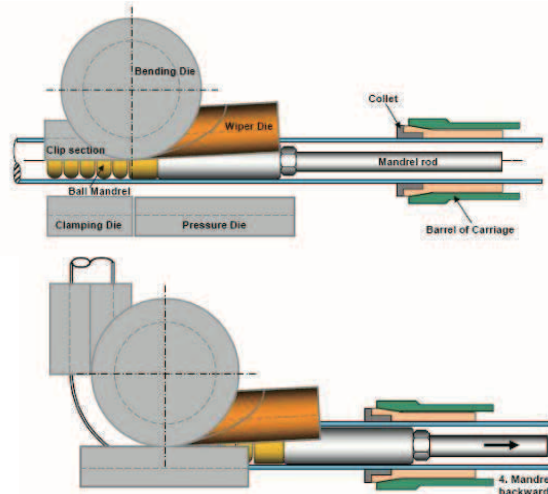


NC: Manual
NCMP: Automatic
CNC: Automatic

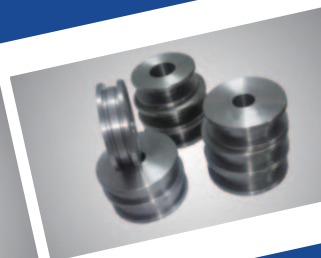
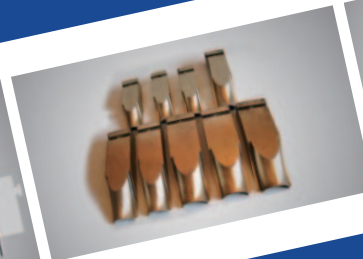
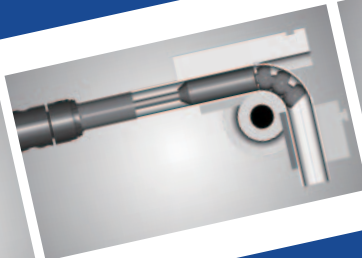
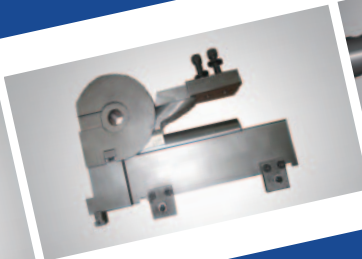
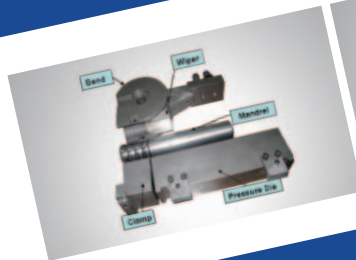


NC: Manual
NCMP: Manual
CNC: Automatic

Bending Principle :



Complete Solutions for Tube and Pipe



ORDER FORM

Questions that will help us select the proper machine and tooling for you :
Please fill the information detailed, That would be better if you could send us the drawings or sample photos, many thanks.

1. What type of metal/material is being bent?

2. What type of product is being made?

3. What is the size of the tube/pipe?

4. What is the wall thickness?

5. What is the center line radius (CLR)?

6. What is the distance between the bends?

Please provide any additional information that would assist us in your quotation:

bossray[®]

Bossray Machinery Inc.

ADD: NO.3, Jinxiu Road (Jiangsu Yangtze International Metallurgical Park)
Jinfeng Town, Zhangjiagang City, Jiangsu Province, China.215600.

Web: www.bossray.com **E-mail:** info@bossray.com

Mobile Phone: +86-13921971996

Tel/Fax: +86-512-58626832