



PBS Series
CNC PRESS BRAKE

ELECTRO-HYDRAULIC **SERVO CNC**

PRESS BRAKE

MODEL:

PBS-170T3100

With DA53Tx control system



Expert of **metal** **Forming**

YRS 英睿斯®

YINGRUISI ABOUT US

Nanjing YRS Machine Tool Manufacturing Co., Ltd. is a high-end sheet metal equipment brand with a long-standing history. Our products and services are available worldwide. To date, we have established branches in China, Germany, Australia, Malaysia, Indonesia, Russia and Thailand.

Nanjing YRS Machine Tool Manufacturing Co., Ltd. maintains comprehensive technical and business cooperation with many world-renowned sheet metal equipment brands.

Drawing on the technologies from its headquarters R&D center and years of manufacturing experience, as well as advanced concepts and expertise from overseas partner brands, YRS Machine Tool has invested 20 million RMB in Jiangsu to build an intelligent CNC machine tool factory, specializing in the production of premium, high-end and intelligent sheet metal processing equipment.

Upholding a strong sense of responsibility, YRS Machine Tool is committed to consistently delivering reliable products and thoughtful services to all customers.

We provide reliable sheet metal machinery solutions, focus on press brake and metal fabrication equipment, and are committed to quality, dedication, and continuous innovation.



ONE STEP AHEAD.

Professional, Consistent from Start to Finish

Focused on Precision and Excellence

A Leader in CNC Sheet Metal Machinery and
a Trusted Partner in Metal Fabrication

The main motor adopts a high-performance servo drive system with single-servo pump control technology, delivering an efficient, cost-effective, eco-friendly, and energy-saving solution.



Eco-Friendly & Energy Saving

A fully eco-friendly design with a servo pump system, reducing oil temperature rise and energy consumption. No industrial pollution.



Unlimited Length Bending

Compared to conventional hydraulic press brakes, the "throat" is almost non-existent. The workpiece can be moved freely, with no limitations on bending length.



Low Energy Consumption

Equipped with a high-performance servo motor. When idle, the motor stops working, achieving up to 69% energy savings.



Rigid Structure

The machine body is dynamically analyzed and optimized for superior strength and rigidity.



Technical Parameters

No.	Item	Unit	Parameter
1	Machine Model		PBS-170T/3100
2	Bending Force	kN	1700
3	Bending Length	mm	3100
4	Distance Between Frames	mm	2600
5	Throat Depth	mm	410
6	Cylinder Stroke	mm	200
7	Open Height (without tooling and worktable)	mm	570
8	Main Motor Power	kW	17.8
9	Oil Pump Model		25
10	CNC System Model		DELEM DA53TX
11	Controlled Axes		4+1Axes(Y1、Y2、X、R+W)
12	Ram Speed - Approach	mm/s	200
	Ram Speed - Pressing	mm/s	13
	Ram Speed - Return	mm/s	180
13	Ram Repeat Positioning Accuracy	mm	±0.01
14	Backgauge X Axis Stroke	mm	600
	Backgauge X Axis Max. Speed	mm/s	350
	Backgauge X Axis Repeat Positioning Accuracy	mm	≤±0.01
15	Backgauge R Axis Stroke	mm	200
	Backgauge R Axis Max. Speed	mm/s	240
	Backgauge R Axis Repeat Positioning Accuracy	mm	≤±0.02
16	Oil Tank Capacity	L	320
17	Frame Thickness Left & Right Side Plates	mm	60
	Frame Thickness - Ram	mm	70
	Frame Thickness Lower Worktable Side Plate	mm	100

Note: Specifications are for reference only and may vary with configuration.

Paint Spraying

The water curtain and waste gas treatment system matched with the mobile spray booth complies with national environmental protection standards and guarantees the surface painting quality.



Machine Design

The frame and slide block are machined in one piece by large CNC floor-type boring and milling machines, ensuring the perpendicularity and parallelism of all mounting surfaces.

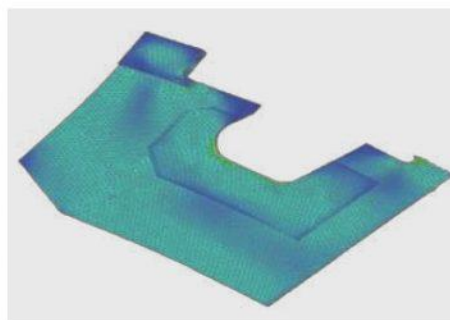
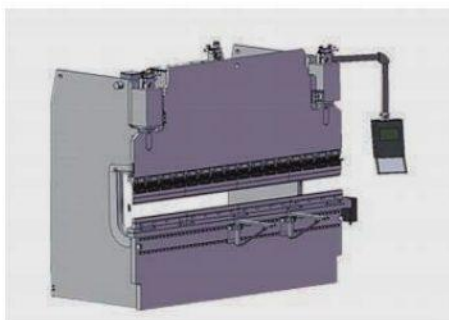


“ Advantages of High-performance Press Brake ”

MACHINE ADVANTAGES

Machine Design

Finite Element Analysis (FEA) for complete machine. Professional analysts conduct FEA on the frame, slide block, worktable and vertical plate of each unit via ANSYS software to verify the overall strength and rigidity, thus guaranteeing long service life of the machine.



Frame Welding

No welding defects such as undercut, porosity and cracks exist on welds. External welds are ground smooth with no spatter. The overall surface of the equipment is flat, smooth and free of dents and bulges.

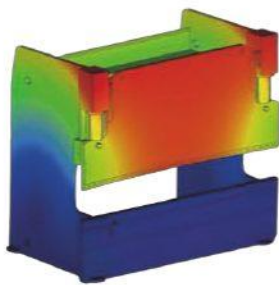
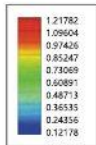


HIGH-PRECISION

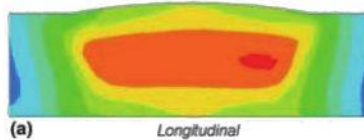
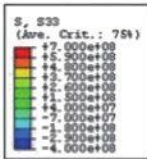
PBS series press brake features a rigid frame for minimum deflection under the load. Machine welding is made by welding apparatus & welding robots. After the welding, we make a stress relief process by high-temperature tempering or vibration system to improve the mechanical properties of materials, reduce deformation and rebound, improve the stability and durability of the workpiece, and machine frame sensitivity is protected for a long lifetime.

Frame Stress Relief

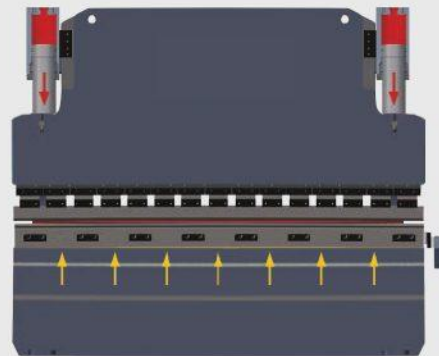
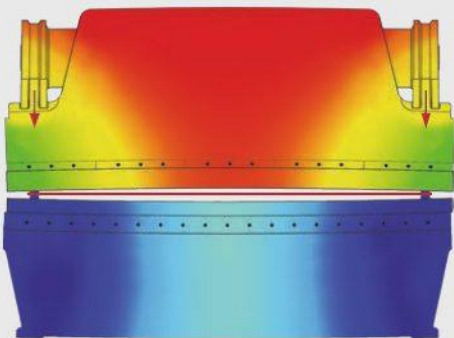
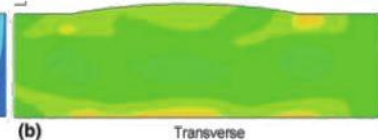
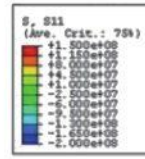
Stress von mises (N/mm²(MPa))



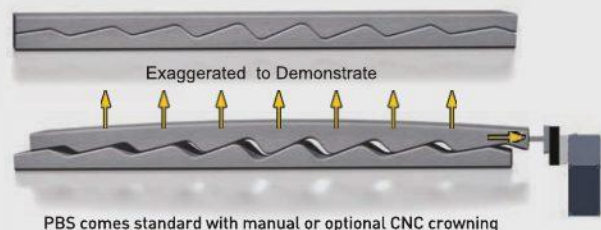
Stress(Pa)



Stress(Pa)



PBS offers both manual and automatic controlled crowning systems for all our press brakes. Automatic CNC crowning comes standard on our PBS Series machines. The position and setting is automatically calculated and set from the normal program information via the CNC control.

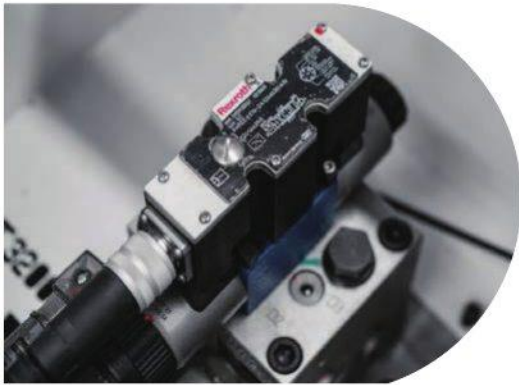




Energy Saving & Low Noise

Servo Pump System

The servo pump system supplies oil on demand, greatly improving energy efficiency. The motor rotates only when needed, which reduces noise by up to 30%. Torque limit and analog speed control help reduce valve overflow and interception, significantly lowering oil temperature.



Reliable Hydraulic Performance

Brand Hydraulic System

The hydraulic system provides smooth and reliable operation, effectively reducing issues caused by hydraulic oil leakage. Stable performance and trusted components help ensure long-term durability and dependable bending results.



Fast Tool Setup

Quick Clamping

Quick clamping makes upper-die installation faster, reduces labor intensity, and improves production efficiency. It offers high precision, easy clamping, no loosening, and no tool dropping.



Durable and Accurate

High Quality Press Brake Tooling

After forging and quenching, the tooling is durable and wear-resistant. It delivers high precision, high straightness, and excellent repeatability, helping achieve ideal bending performance.

High Precision Mechanical Crowning

The compensation closed-loop control delivers high accuracy. The crowning compensation value is automatically calculated and set by the NC system, ensuring consistent bending angle across the full length.



Precision Linear Grating Ruler

The linear grating ruler is used for positioning and monitoring on both sides to achieve high positioning accuracy. With an accuracy of 0.005 mm, it provides rapid feedback to the servo control system.

Imported high-precision displacement sensor: GIVI, Italy



Stable and Reliable Back Gauge

Imported ball screw drive, linear guide, and dual linear guide structure of the crossbeam ensure accurate positioning. Equipped with precise multi-level stoppers, the positioning range is enlarged, making bending more convenient.



Flexible Robotic Bending Cell

According to your production and processing needs, flexible automation solutions for sheet metal bending can be provided.

PROFESSIONAL SHEET METAL EQUIPMENT | ONE-STOP SOLUTIONS

Complete Solutions for Modern Metal Fabrication

We provide complete sheet metal equipment and services

- ✓ R&D and customized machine design
- ✓ Fast delivery and global logistics
- ✓ Professional technical support and training
- ✓ Comprehensive after-sales and warranty service

Why customers choose us

- ✓ Reliable manufacturing quality
- ✓ Efficient production solutions
- ✓ Experienced engineering support
- ✓ Long-term service commitment



Advanced Operator Protection Safety Guards

The DSP laser safety protection device, imported from Italy, provides comprehensive protection for press brake operation and helps safeguard the operator during bending work.



Automatic Angle Detection Laser Check Angle Measurement

The laser angle measurement system helps ensure a stable and accurate bending angle, improving both the efficiency and consistency of automatic processing.



Smart Sheet Support CNC Follower Supports

During bending, the follower support automatically tracks the movement and angle of the workpiece. Its speed and motion are calculated by the CNC system, and it can move smoothly left and right along the linear guide rail.

OPTIONAL CNC SYSTEM



SCS 700

- 15-inch industrial capacitive touch screen
- Standard 6+1 axes (expandable to 8+1 axes)
- Supports external expansion functions
- Hydraulic bending machine
- All-electric bending machine
- Dual-pump controlled bending machine



SCS 920

- 21.5-inch industrial capacitive touch screen
- Standard configuration: 6+1 axes (expandable to 8+1 axes)
- Supports extended additional functions
- Hydraulic bending machine
- All-electric bending machine
- Dual-pump controlled bending machine



SCS 980

- 21.5-inch Taiwan-made industrial capacitive touch screen
- Dual OS: Windows & Linux; EMC Class 4 industrial motherboard, dual CPUs, strong anti-interference performance.
- Standard 6+1 axes, expandable to 8+1 axes.
- Supports EtherCAT communication with full servo closed-loop control.
- DC24V power supply; equipped with analog I/O, USB, Ethernet, handwheel and safety light curtain interfaces.



KT19

- Shortcut touch navigation
- 18.5" high-resolution true-color display screen
- Expandable multi-axis control and deflection compensation control
- 2D graphic programming; the system automatically calculates bending procedures, with real-time 3D visualization for intuitive and user-friendly operation
- Large-capacity die library, material library and product library
- Supports importing product drawings in DXF format from CAD and other software
- Supports servo communication / analog quantity control
- Advanced Y-axis control algorithm, fully compatible with both imported and domestic valves
- Two sets of USB expansion interfaces; Internet connectivity supported
- Equipped with Industry 4.0 compatible interface; Windows 10 / Linux operating platforms



DA-53Tx(Delem)

- Shortcut touch navigation
- 15.6" high-resolution widescreen display
- Max. 4-axis control (Y1, Y2 plus 2 auxiliary axes)
- Deflection compensation control
- Built-in die library, material sheet library and product library
- Supports servo and frequency conversion control
- Advanced Y-axis control algorithm compatible with both closed-loop and open-loop valves
- 2D graphic programming (optional)
- Networked two-machine linkage (optional)
- Ethernet interface (optional)
- Profile-58TTL offline programming software



DA-58Tx(Delem)

- Touch-operated 2D graphic programming
- 18.5" high-resolution TFT color display
- Automatic calculation of bending sequences
- Deflection compensation control
- Equipped with die library, material sheet library and product library
- Supports servo and variable frequency control
- Advanced Y-axis control algorithm, compatible with both closed-loop and open-loop valves
- Protractor interface (optional)
- Network-based dual-machine linkage (optional)
- Network interface (optional)
- Profile-58TTL offline programming software



DA-66S(Delem)

- Touch-operated 2D graphic programming
- 3D graphical simulation display of workpieces
- 24" high-resolution color TFT display
- Compatible with Delem modules (modules are expandable and self-adaptive)
- USB and peripheral interfaces
- Industry 4.0 interface supported (OPC-UA optional)
- Workshop management & job list functions
- Open system architecture
- Interfaces for angle measurement bending and angle correction
- Profile-S 2D offline programming software



DA-69S(Delem)

- Touch-based 2D & 3D graphic programming
- 3D graphical simulation display for workpieces
- 24" high-resolution color TFT display screen
- Compatible with Delem modules (expandable and self-adaptive modules)
- USB and peripheral interfaces
- Supports Industry 4.0 interface (OPC-UA optional)
- Workshop control and job list functions
- Open system architecture
- Interfaces for bending angle detection and angle correction
- Profile-S 3D offline programming software



ESA VIS-840

- 2D graphic display of machine, workpieces and dies
- Automatic calculation of bending sequences
- Capable of generating an angle correction database based on angles, dies and materials; correction values are automatically applied to newly created programs (optional)
- Equipped with interface for Esatomotion or Wila LED light strips
- Compatible with wired Mitutoyo angle measuring instrument



ESA VIS-860

- 18.5-inch multi-touch screen supported
- Touch-based application interface available
- Frameless black bezel design for a minimalist and stylish appearance
- Freehand workpiece drawing function supported
- Direct import and management of die library (.dxf file format)
- Upper punch holder and lower die seat library management
- Compatible with DataM laser angle measurement system
- Supports ESA 3D Bend 3D bending software
- Equipped with Modbus TCP bus interface to realize Industry 4.0 connectivity



ESA VIS-875

- 21.5-inch multi-touch screen design
- Multi-touch operation interface supported
- Frameless design with concise and powerful appearance
- Freehand workpiece design by fingertip operation
- Import of tool profiles (.dxf file format) supported
- Tool library management available
- Die clamp management function
- Compatible with laser angle measurement system
- Supports ESA 3D Bend software
- Standard Modbus TCP interface for Industry 4.0 communication



E-Touch 18

- 21.5-inch high-resolution color TFT touch screen made in Taiwan
- User-friendly interface: menu-style layout & multi-style UI options
- Customizable functions: icon text annotation, quick bending operations, tabular display of processing steps
- Data acquisition curve function
- CAD file import supported
- Multiple programming modes: QR code scanning, 2D graphic drawing & table programming
- Automatic parameter backup; data import and export available
- Two optional deflection compensation solutions: hydraulic or electric motor type
- Advanced Y-axis control algorithm compatible with both closed-loop and open-loop valves
- Energy-saving & eco-friendly: matched with servo pump; oil supply adjusted according to movements to reduce overflow, cutting power consumption by 40%
- Multi-language support: Chinese, English, Russian, French, German, Korean, Portuguese, Spanish, etc.
- Dual-machine linkage (optional)
- Offline programming & remote assistance functions
- Automatic data storage via TF card

Main Configurations

- 1、GB17120-2012
- 2、JB/T2257.1-2014
- 3、Q/321088JWB2-2018

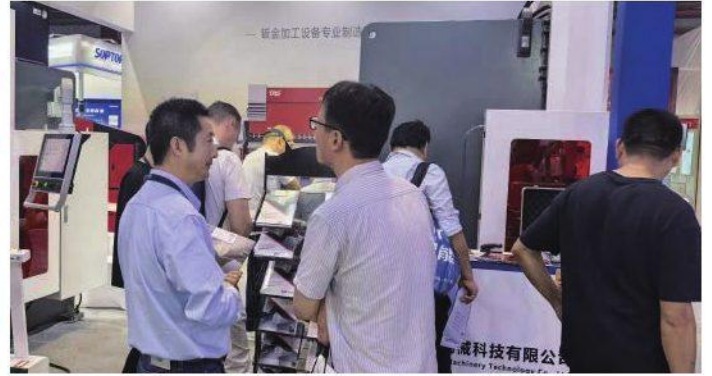
Safety Technical Requirements for Forging Machinery
Technical Conditions for CNC Press Brake
CNC Press Brake Executive Standard

No.	Item	Qty	Remark
1	DA53TX System	1 set	DELEM, Netherlands
2	Main Motor	1 set	Inovance Motor
3	Oil Pump	1 set	ALLEAD, Germany
4	Hydraulic System	1 set	Rexroth
5	Oil Cylinder	1 set	Anhui Huayang
6	Seals	1 set	NOK, Japan
7	Main Electrical Components	1 set	Schneider, France
8	Linear Grating Ruler	1 set	GIVI, Italy
9	Backgauge Servo Motor and Drive	1 set	Estun
10	Ball Screw	1 set	HIWIN, Taiwan
11	Linear Guide Rail	1 set	HIWIN, Taiwan
12	Foot Switch	1 set	YRS
13	Mechanical Crowning	1 set	Huangshi Sanrui

Delivery Scope

No.	Name	Qty	Unit	Remark
1	Main Machine	1	unit	
2	Tooling Set	1	set	
3	Movable Front Support Arms with Emergency Stop Switch	1	pair	
4	Linear Guide Front Support Brackets	2	pcs	
5	Foundation Bolts and Nuts	4	sets	
6	Electrical Cabinet Door Key	1	set	
7	Grease Gun	1	pc	
8	Allen Wrench Set	1	set	
9	Operation Manual and Related Documents	1	set	

Note: The above configuration is for reference only. The actual configuration is subject to the contract.





Technical Support & Service

1. Technical Services

After the machine enters the installation phase, the supplier will provide free training for the buyer's operators and maintenance personnel.

2. Quality Assurance

The supplier follows a comprehensive quality management system and adopts strict quality control and inspection procedures.

3. After-sales Service

3.1 A one-year warranty starts from the date both parties sign the acceptance report after the machine passes final acceptance. During the warranty period, the supplier is responsible for repair and replacement of parts caused by quality-related issues.

3.2 In the event of equipment failure, after receiving notice from the buyer, the supplier will promptly provide a troubleshooting solution and arrange service within 24 hours.

3.3 After the warranty period, the supplier will continue to provide long-term technical support.





**NANJING YRS MACHINE TOOL
MANUFACTURING CO., LTD.**

ADD: Mingjue Industrial Park, Lishui District,
Nanjing city, Jiangsu Province, China.

SINCE 2018