



PBS Series
CNC PRESS BRAKE

ELECTRO-HYDRAULIC MAIN SERVO

CNC PRESS BRAKE



HIGH PRECISION

Excellent bending accuracy



HIGH EFFICIENCY

Faster performance,
higher productivity



HIGH STABILITY

Servo system ensures
stable and reliable operation



ENERGY SAVING

Lower consumption,
greener production



Expert of **Metal Forming**

PRECISION • PERFORMANCE • PRODUCTIVITY

YRS®
YINGRUI SI

ABOUT US

Nanjing YRS Machine Tool Manufacturing Co., Ltd. is a high-end sheet metal equipment manufacturer with a strong industry background. Our products are available worldwide, and we have established a presence in China, Germany, Australia, Malaysia, Indonesia, Russia, and Thailand.

YRS maintains comprehensive technical and business cooperation with many internationally recognized sheet metal equipment brands. Supported by its R&D center and years of manufacturing experience, the company combines advanced concepts with practical production expertise.

The company has invested significantly in intelligent CNC sheet metal processing technology, specializing in the production of premium, high-end, and intelligent sheet metal equipment.

With a strong sense of responsibility, YRS is committed to delivering reliable products and thoughtful service to customers around the world.

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



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



About Us



Expert in **Metal Forming**

The main motor is a high-performance servo motor. Using single-servo pump control technology, it is a cost-effective, energy-saving, and environmentally friendly solution.



Environmentally Friendly

The single-servo pump control system reduces energy consumption, lowers noise, and helps create a cleaner working environment. It is an efficient and eco-friendly solution for modern metal forming.



Unlimited Full-Length Bending

Thanks to its advanced frame design and stable motion control, the machine supports full-length bending with high consistency and precision, offering greater flexibility in production.



Low Energy Consumption

When the upper beam is not moving, the servo motor remains idle and consumes minimal energy. This reduces power usage significantly and helps lower operating costs.



Rigid Structure

The machine body features a dynamically analyzed and precision-processed rigid structure, ensuring excellent stability, long service life, and reliable bending accuracy.



01

PBC Servo Press Brake

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.

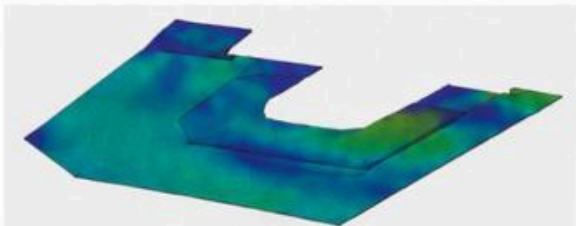
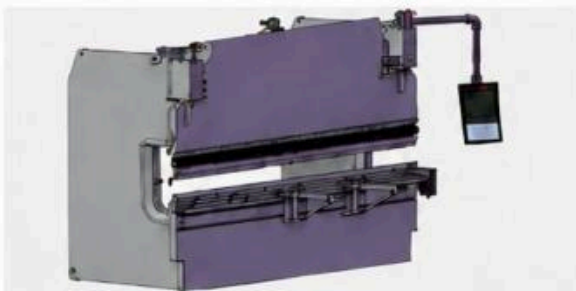


“ Advantages of High-performance Press Brake ”

Machine Advantages

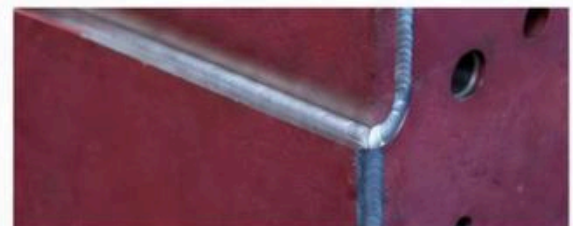
Machine Design

Using finite element analysis (FEA) with ANSYS software, we evaluate the frame, slide block, worktable and critical components of the machine, and optimize the overall strength and rigidity to ensure long-term reliability and service life.



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.





Press Brake Main Technical Parameters

No.	Item		Unit	Parameter
1	Machine Model			PBS-50T/1600
2	Bending Force		kN	500
3	Bending Length		mm	1600
4	Distance Between Columns		mm	1200
5	Throat Depth		mm	300
6	Cylinder Stroke		mm	150
7	Open Height (without tooling and worktable)		mm	480
8	Main Motor Power		kW	5.5
9	Oil Pump Model			13
10	CNC System Model			DELEM DA53Tx (Netherlands)
11	Controlled Axes			4+1 Axis (Y1, Y2, X, R+W)
12	Ram Speed	Approach	mm/s	200
12		Bending	mm/s	13
12		Return	mm/s	180
13	Ram Accuracy	Repeat Positioning Accuracy	mm	±0.01
14	Backgauge X Axis	Stroke	mm	550
14	Backgauge X Axis	Max. Speed	mm/s	350
14	Backgauge X Axis	Repeat Positioning Accuracy	mm	≤±0.01
15	Backgauge R Axis	Stroke	mm	200
15	Backgauge R Axis	Max. Speed	mm/s	240
15	Backgauge R Axis	Repeat Positioning Accuracy	mm	≤±0.02
16	Oil Tank Capacity		L	150
17	Frame Thickness	Left & Right Side Plates	mm	35
17		Ram	mm	40
		Lower Worktable Plate	mm	50

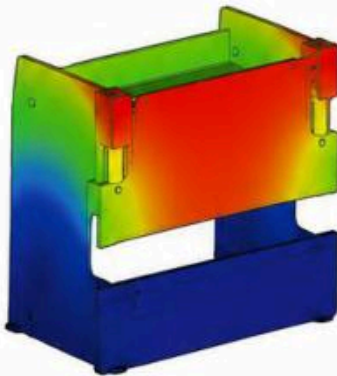
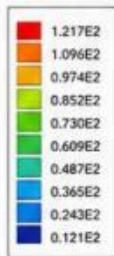
Note: The above data are standard factory data. If there is any discrepancy, the actual machine shall prevail.

HIGH-PRECISION

The PBC series press brake features a rigid frame design that minimizes deflection under load. Machine welding is completed by welding equipment and robotic welding systems. After welding, the frame undergoes stress-relief treatment through high-temperature tempering or vibration aging to improve the mechanical properties of the material, reduce deformation and rebound, and enhance long-term stability, durability, and service life.

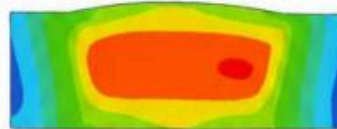
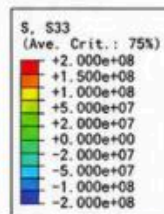
Frame Stress Relief

Stress (von Mises) [N/mm² (MPa)]



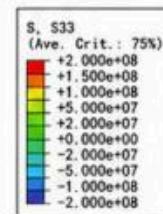
Weld Residual Stress Relief

Stress (Pa)

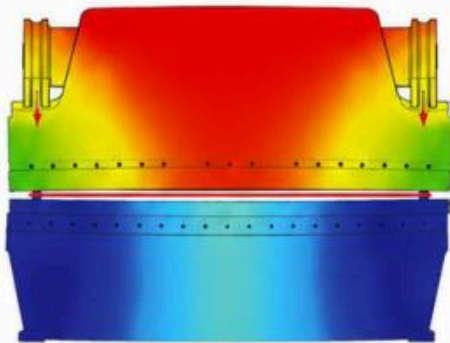


(a) Longitudinal

Stress (Pa)



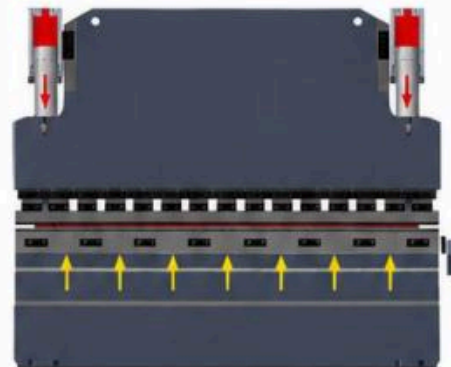
(b) Transverse



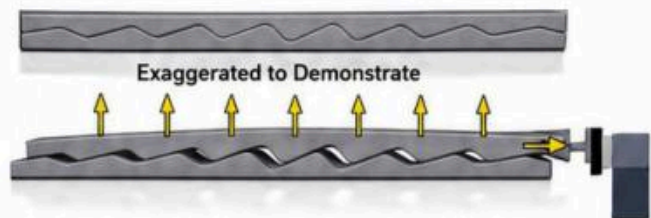
Concave



Convex



PBC offers both manual and automatic controlled crowning systems for all press brakes. Automatic CNC crowning comes standard on our PBC series machines. The crowning position and setting are automatically calculated and set through the CNC control according to program information, helping ensure consistent bending accuracy.



PBC comes standard with manual or optional CNC crowning



Rigid frame design
minimizes deflection
under load



Welding equipment &
robotic welding for
high-quality frames



Stress-relief treatment
improves material
properties



Enhanced stability,
durability, and
service life



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.

Rexroth
Bosch Group

HAWE
HYDRAULIK



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

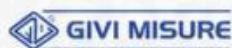
The compensation closed-loop control delivers high accuracy. The crowning compensation value is automatically calculated and set by the NC system, ensuring consistent bending angle across the full length.



Precision Linear Grating Ruler

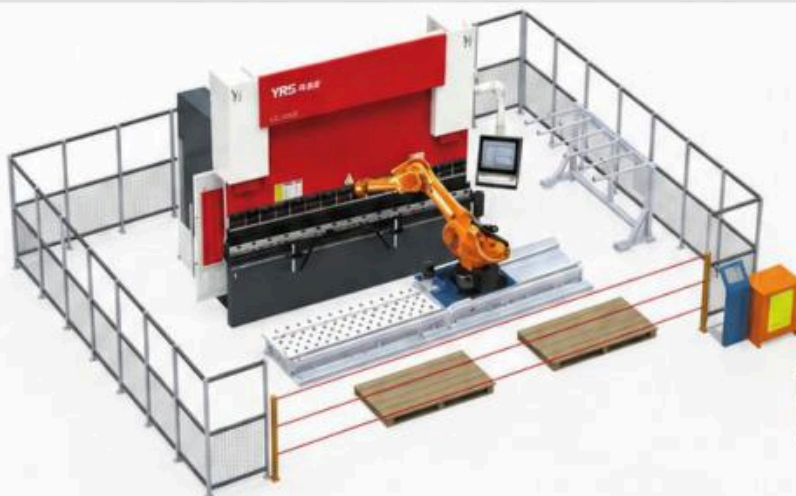
The linear grating ruler is used for positioning and monitoring on both sides to achieve high positioning accuracy. With an accuracy of 0.005 mm, it provides rapid feedback to the servo control system.

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

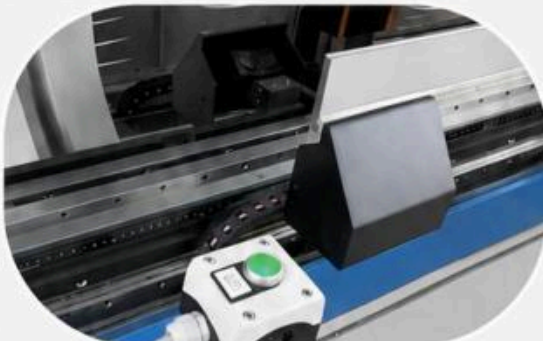
- ✓ Reliable manufacturing quality
- ✓ Efficient production solutions
- ✓ Experienced engineering support
- ✓ Long-term service commitment



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

Available Controller Options for Press Brakes

SYNTEC

SCS 700



- 15-inch industrial capacitive touch screen
- Standard 6+1 axes, expandable to 8+1 axes
- Supports expansion functions
- Suitable for hydraulic press brakes
- Suitable for all-electric press brakes
- Suitable for dual-pump controlled press brakes

SCS 920



- 21.5-inch industrial capacitive touch screen
- Standard 6+1 axes, expandable to 8+1 axes
- Supports expansion functions
- Suitable for hydraulic press brakes
- Suitable for all-electric press brakes
- Suitable for dual-pump controlled press brakes

SCS 980



- 21.5-inch Taiwan industrial capacitive touch screen
- Windows + Linux dual system
- EMC4 industrial-grade motherboard, dual CPU, strong anti-interference capability
- Standard 6+1 axes, expandable to 8+1 axes
- Supports EtherCAT communication and full-servo closed-loop control
- DC24V power supply, analog I/O, USB, Ethernet, handwheel, and safety light curtain interface

DELEM

DA-53Tx (Delem)



- Hot-key touch navigation
- 15.6-inch high-resolution widescreen display
- Maximum 4-axis control (Y1, Y2, +2 auxiliary axes)
- Crowning control
- Tool, material, and product library
- Supports servo and frequency-converter control
- Advanced Y-axis control algorithm for proportional and open valves
- 2D graphic programming (optional)
- Network connection (optional)
- Network interface (optional)
- Profile-53TL offline programming software

DA-58Tx (Delem)



- 2D graphical touch programming
- 18.5-inch high-resolution TFT color display
- Automatic bend sequence calculation
- Crowning control
- Tool, material, and product library
- Supports servo and frequency-converter control
- Advanced Y-axis control algorithm for proportional and open valves
- Sensor interface (optional)
- Network connection (optional)
- Network interface (optional)
- Profile-58TL offline programming software

DA-66S (Delem)



- 2D touch graphic programming
- 3D product graphic simulation
- 24-inch high-resolution color TFT display
- Delem module compatibility with expandable/adaptable modules
- USB and external interfaces
- Industry 4.0 interface (OPC-UA optional)
- Workshop control and job-list functions
- Open system architecture
- Angle measurement bending and angle correction interface
- Profile-S 2D offline programming software

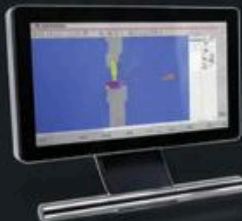
DA-69S (Delem)



- 3D and 2D touch graphic programming
- 3D product graphic simulation
- 24-inch high-resolution color TFT display
- Delem module compatibility with expandable/adaptable modules
- USB and external interfaces
- Industry 4.0 interface (OPC-UA optional)
- Workshop control and job-list functions
- Open system architecture
- Angle measurement bending and angle correction interface
- Profile-S 3D offline programming software

ESA

ESA VIS-840



- 2D graphic display of machine parts and tooling
- Automatic bending-step calculation
- Can generate an angle correction database based on angle, tooling, and material; correction values can be added automatically when creating programs (optional)
- Esautomotion or Wila LED indicator light interface
- Can connect a wired Mitutoyo angle measuring instrument

ESA VIS-860



- Multi-touch, 18.5-inch screen
- Touch application interface
- Borderless design, simple and stylish
- Supports hand-drawn workpieces
- Supports direct import and management of tool libraries (.dxf format)
- Supports upper die and lower die holder management
- Supports DataM laser angle measurement
- Supports ESA 3D Bend software
- Modbus TCP bus interface for Industry 4.0 integration

ESA VIS-875



- 21.5-inch multi-touch screen design
- Supports multi-point touch applications
- Simple, powerful borderless design
- Supports finger-drawn workpiece design
- Supports tool import (.dxf format)
- Supports tool library management
- Supports punch and die management
- Supports data angle measurement systems
- Supports ESA 3D Bend software
- Standard Industry 4.0 Modbus TCP interface

MAIN CONFIGURATIONS

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	



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.



EXHIBITION HIGHLIGHTS

YRS Industrial Booth Showcase





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