



PBS Series
CNC PRESS BRAKE

**ELECTRO-HYDRAULIC
MAIN SERVO**

CNC PRESS BRAKE

MODEL:

PBS-70T1600

With **DA53Tx** Control System



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 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.



Model: PBS-70T1600 (4+1 Axis)

Controller: DELEM DA53TX CNC System



Technical Parameters

Main Technical Specifications

No.	Item	Unit	Parameter
1	Machine Model		PBS-70T/1600
2	Bending Force	kN	700
3	Bending Length	mm	1600
4	Distance Between Frames	mm	1200
5	Throat Depth	mm	300
6	Cylinder Stroke	mm	170
7	Open Height (without tooling and worktable)	mm	540
8	Main Motor Power	kW	7.5
9	Oil Pump Model		16
10	CNC System Model		DELEM DA53TX (Netherlands)
11	Number of Control Axes		4+1 axes (Y1, Y2, X, R+W)
12	Ram Speed - Approach	mm/s	200
13	Ram Speed - Pressing	mm/s	13
14	Ram Speed - Return	mm/s	180
15	Ram Repeat Positioning Accuracy	mm	±0.01
16	Backgauge X Axis Stroke	mm	550
17	Backgauge X Axis Max. Speed	mm/s	350
18	Backgauge X Axis Repeat Positioning Accuracy	mm	≤±0.01
19	Backgauge R Axis Stroke	mm	200
20	Backgauge R Axis Max. Speed	mm/s	240
21	Backgauge R Axis Repeat Positioning Accuracy	mm	≤±0.02
22	Oil Tank Capacity	L	150
23	Frame Thickness - Left & Right Side Plates	mm	40
24	Frame Thickness - Ram	mm	60
25	Frame Thickness - Lower Worktable Side Plate	mm	60

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

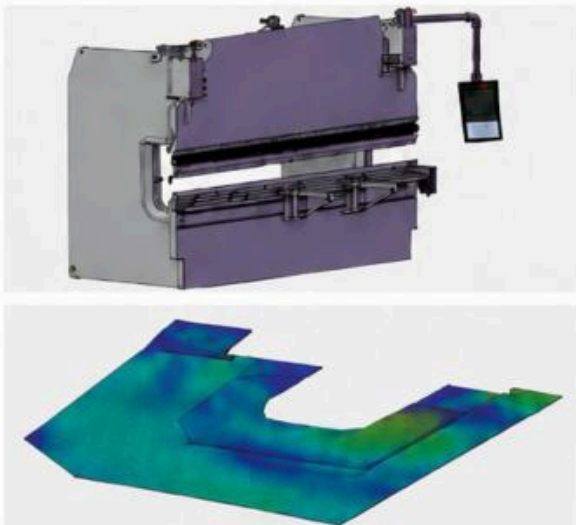
The frame and slide block are machined in one piece by large CNC floor-type boring and milling machines, ensuring the perpendicularity and parallelism of all mounting surfaces.



“ Advantages of High-performance Press Brake ” Machine Advantages

Machine Design

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.

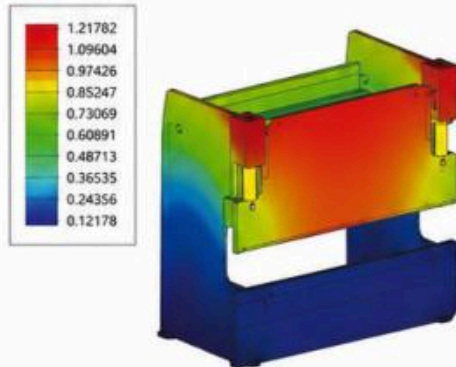


HIGH-PRECISION

PBS series press brakes adopt a rigid frame structure, achieving minimal deflection under load. The frame is welded by advanced welding equipment and robots. After welding, vibration stress relief is applied to eliminate internal stress, ensuring high precision, excellent rigidity, improved working stability, and long service life.

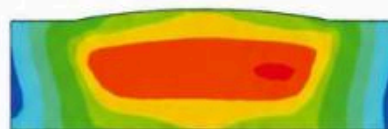
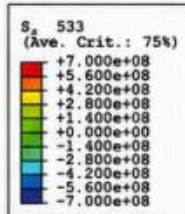
Frame Stress Relief Treatment

Stress von Mises (N/mm² / MPa)



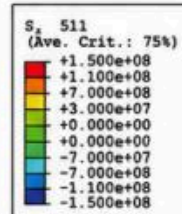
Elimination of Weld Residual Stress

Stress (Pa)

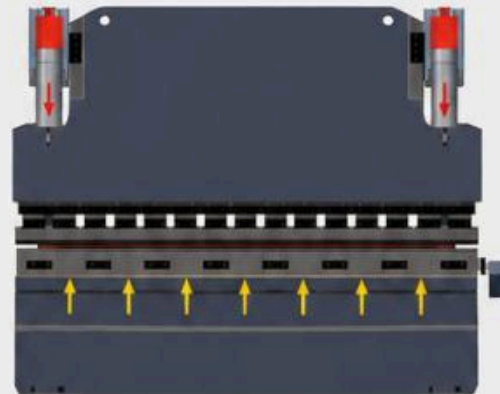
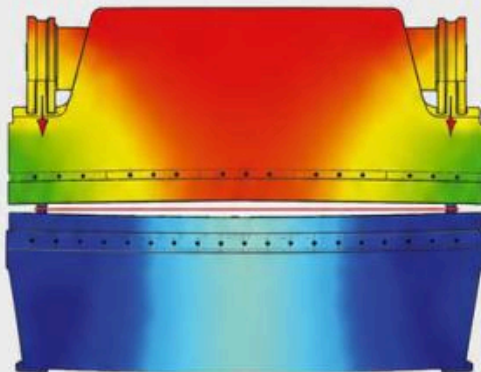


(a) Longitudinal

Stress (Pa)



(b) Transverse



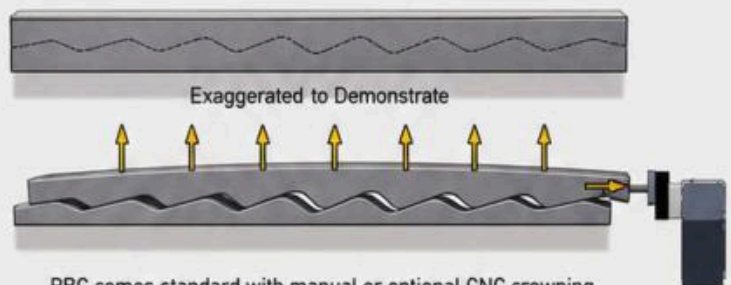
Concave



Convex



PBS provides both manual and automatic crowning compensation systems for all press brakes. PBS series models are equipped with CNC automatic crowning as standard. The compensation position and parameters can be automatically calculated and set by the CNC system according to the bending program information.



PBC comes standard with manual or optional CNC crowning



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

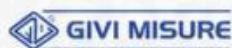
The compensation closed-loop control delivers high accuracy. The crowning compensation value is automatically calculated and set by the NC system, ensuring consistent bending angle across the full length.



Precision Linear Grating Ruler

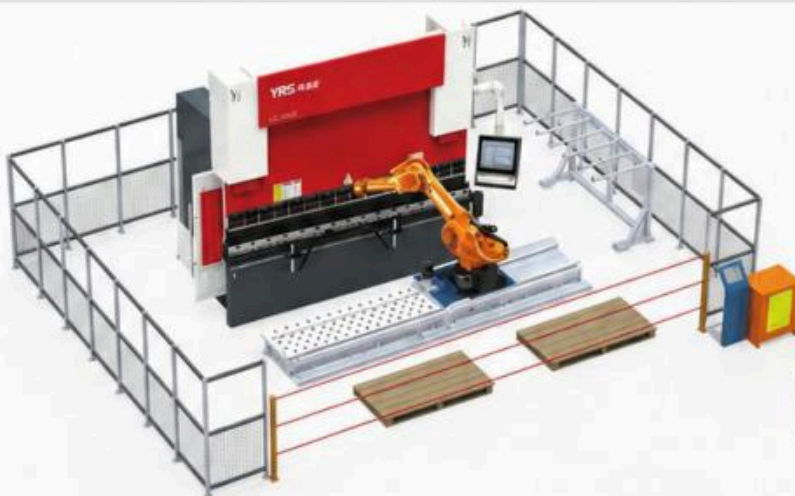
The linear grating ruler is used for positioning and monitoring on both sides to achieve high positioning accuracy. With an accuracy of 0.005 mm, it provides rapid feedback to the servo control system.

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

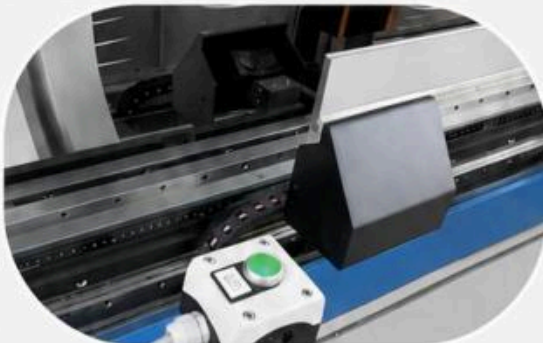
- ✓ Reliable manufacturing quality
- ✓ Efficient production solutions
- ✓ Experienced engineering support
- ✓ Long-term service commitment



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

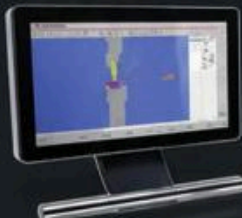
DA-69S (Delem)



- 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

- 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.

EXHIBITION HIGHLIGHTS

YRS Industrial Booth Showcase





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.





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