

SANXIN MACHINE INTRODUCTION AND ANALYSIS WHITE PAPER

Tel:0555-6760088 6760099

Fax:0555-6760022

Add: Bowang Industrial Development
Zone, Ma'anshan, Anhui



Introduction:

About Sanxin Heavy Industry

1. Anhui Sanxin Heavy Industry Machinery Manufacturing Co., Ltd. (ANHUI SANXIN HEAVY INDUSTRY MACHINERY MANUFACTURING CO., LTD) is a modern enterprise specializing in the research, development, and manufacturing of sheet metal processing equipment. We fully understand that precision, efficiency, and reliability are the core competitive advantages in the metal forming industry. Therefore, since its establishment, the company has been committed to integrating advanced mechanical process technologies with internationally advanced management models to provide customers with high-quality solutions that exceed their expectations.
2. Sanxin Heavy Industry is located in the Bowang Special Economic Zone of Ma'anshan City, China's renowned "Steel City." Backed by a strong R&D team—in which mechanical engineers of various disciplines account for more than 20% of the workforce—the company has established over 30 sales and service outlets in major Chinese cities. Our products are widely used in specialized manufacturing sectors such as interior decoration, metallurgy, shipbuilding, automotive, machinery, and aerospace. We were recently awarded the title of "Specialized, Refined, Distinctive, and Innovative" SME by Anhui Province, an authoritative recognition of our innovative capabilities and deep expertise.
3. Our mission is to "build a first-class enterprise, create a first-class brand, and establish a first-class image." We consistently adhere to the development principle of "domestically leading products, world-class quality, relentless pursuit of excellence, and customer satisfaction," working hand in hand with global partners to move forward together.

Our Core Technological Advantages

Robust Machine Structure

1. **Integral Welding and Stress Relief:** The main unit features a steel plate welded structure. Internal stresses are effectively eliminated through vibration aging treatment, ensuring the machine tool's high strength, high rigidity, and long-term operational stability.
2. **Precision Machining:** Equipped with a large floor-type boring and milling machine, the frames of shearing machines and press brakes are machined as a single unit in a single setup, ensuring high precision and coaxiality in all critical areas, in full compliance with national standards.

Advanced Hydraulic and Control Systems

- 1. Electro-hydraulic Servo Synchronization Technology:** The PSA, PSB, and PSM series of CNC press brakes utilize a closed-loop control system comprising electro-hydraulic servo valves and optical encoders to achieve high-precision, highly synchronized control of the ram position (Y1/Y2 axes), ensuring consistent bending angles for workpieces.
- 2. Energy-Efficient and Environmentally Friendly Pump-Controlled Technology:** The PSM series employs pump-controlled electro-hydraulic synchronization technology, which enables “on-demand oil supply” and reduces overflow. Compared to traditional systems, this technology achieves energy savings of approximately 30-40%, while effectively lowering oil temperature, extending the service life of the hydraulic system and its components, and significantly reducing operating noise.

High-Precision Transmission and Compensation

- 1. Precision Drive Components:** The backgauge system is driven by a digital AC servo motor, combined with high-precision ball screws and linear guides, ensuring the positioning accuracy and repeatability of the backgauge.
- 2. Reliable Compensation Mechanisms:** To eliminate the impact of slider deformation during the bending process on workpiece quality, our press brakes are equipped with a worktable mechanical deflection compensation device and a throat deformation compensation mechanism; the CNC system can automatically adjust the compensation values as needed.

Product Line Overview

Sanxin Heavy Industry offers comprehensive sheet metal processing solutions covering multiple stages, including bending and shearing, and can provide customized solutions tailored to specific customer needs.

Bending Machine Series

Series: Electro-hydraulic Synchronous CNC Press Brake

Model: **PSA, PSB**

Key Features and Technical Highlights

1. **High Precision and Efficiency:** Utilizes electro-hydraulic servo synchronization technology with closed-loop control for high precision and smooth operation.
2. **Advanced Compensation System:** Equipped with hydraulic or mechanical automatic deflection compensation to ensure bending precision for long workpieces.
3. **High-End Control System:** Optional dedicated CNC systems from internationally renowned brands such as DELEM (Netherlands), ESA (Italy), or CYBELEC (Switzerland).

Series: Pump-Controlled Electro-Hydraulic Synchronous CNC Press Brake

Model: **PSM**

Key Features and Technical Highlights

1. **Energy Efficiency and Environmental Protection:** The hydraulic system is controlled by a servo motor, which supplies oil according to actual needs, significantly reducing energy consumption and noise.
2. **Precision Control:** The servo motor precisely controls the hydraulic cylinder, resulting in more controllable bending pressure and superior accuracy.

Series: Torsion-Shaft Synchronous CNC Press Brake

Model: **PSN**

Key Features and Technical Highlights

1. **Stable and Reliable:** Features a mechanical torsion shaft synchronization mechanism to ensure smooth and reliable slider operation.
2. **Excellent Value:** With its classic design and simple operation, it is a reliable choice for general sheet metal processing.
3. **Servo-Driven Hydraulic Cylinder:** An optional servo motor-driven hydraulic system is available for more energy-efficient and precise control.

Bending Machine Series

Series: All-Electric Servo CNC Press Brake

Model: PSS

Key Features and Technical Highlights

1. **Clean and Efficient:** Equipped with an electric cylinder driven by a heavy-duty ground ball screw, this system requires no hydraulic oil and is fully electrically powered, offering high transmission efficiency, energy savings, environmental friendliness, and low maintenance costs.
2. **High Precision and Long Service Life:** With fully electric servo control, it supports 4- to 8-axis synchronized motion, meeting the high-precision forming requirements of complex parts.

Series: Hydraulic Guillotine Shear

Model: QC11Y/K

Key Features and Technical Highlights

1. **High-Quality Cutting:** Features a three-point-supported rolling guide rail that eliminates support clearance and improves cutting quality.
2. **Versatility and Convenience:** The upper blade holder features an inward-tilting design for easy material ejection; equipped with segmented cutting and illuminated alignment functions; blade clearance can be quickly adjusted to accommodate different sheet thicknesses.

Series: Torsion-Shaft Synchronous CNC Press Brake

Model: QC12Y/K

Key Features and Technical Highlights

1. **Professional CNC System:** Equipped with a dedicated CNC system for shearing machines, enabling intelligent control of the rear stop position and multi-step programming.
2. **High-precision positioning:** Utilizes imported ball screws and linear guides to ensure precise positioning of the rear stop.
3. **High efficiency:** Features such as cut counting and automatic positioning enhance batch processing efficiency.

Applications

Sanxin Heavy Industry's equipment plays a key role in many industrial sectors:

1. **Interior Finishing:** Forming and cutting of metal curtain walls, ceilings, and decorative components.
2. **Metallurgical Industry:** Pre-treatment and forming of thick plates and high-strength steel plates.
3. **Shipbuilding:** Bending and shearing of hull plating and internal structural components.
4. **Automotive Industry:** Prototyping and mass production of body panels and structural components.
5. **Machinery Manufacturing:** Sheet metal enclosures and structural components for various types of machinery and equipment.
6. **Aerospace:** Machining of high-precision aluminum alloy and special alloy sheet metal parts.

Quality Assurance and Service

Sanxin Heavy Industry has obtained ISO 9001:2008 international quality management system certification.

We are committed to:

1. **Global Service Network:** Through our sales and service network covering the entire country and extending overseas, we provide customers with timely technical support and spare parts supply.
2. **Customized Services:** Our strong R&D team can tailor personalized solutions based on customers' specific process requirements.
3. **Continuous Innovation:** As a "Specialized, Refined, Unique, and Innovative" enterprise, we will continue to invest in R&D to continuously enhance product performance and intelligence levels.

Conclusion

1. When you choose Sanxin Heavy Industry, you're choosing a trusted, long-term partner in the metal forming industry. With our cutting-edge technology, exceptional quality, and comprehensive services, we'll help your company gain a competitive edge in today's fiercely competitive market.