Electric Servo Press Brake

40T/1600

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COMPANY PROFILE

Mission

We are committed to research and development, improving product and service quality, in order to establish a globally renowned sheet metal manufacturing machinery center.

Vision

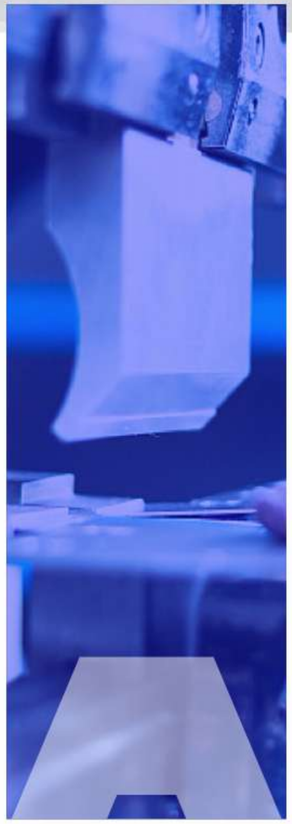
Our goal is to become a highly respected sheet metal support service provider, earning the trust of customers and the pride of employees.

Values

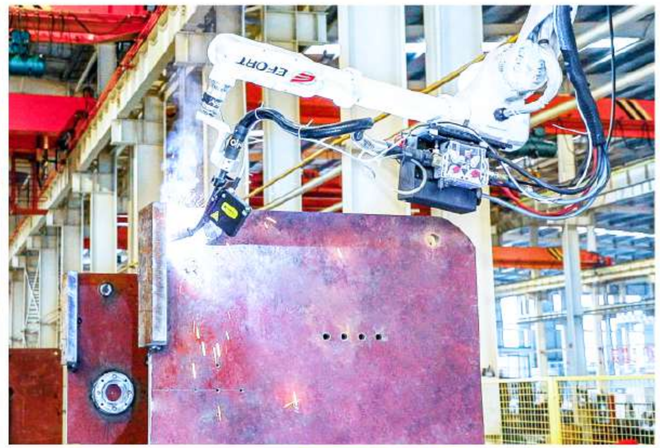
Innovation, Lean Manufacturing, Integrity, Win-Win.

ADH Company, founded in 2002, is located in Ma'anshan City, Anhui Province, which is 30 kilometers away from Nanjing Lukou Airport. Our company covers an area of 450 Mu and mainly produces press brake machines, hydraulic shearing machines, laser cutting machines, laser automation, CNC turret punches, and sheet metal automation equipment.

ADH has three production bases, four testing centers, and three business divisions: press brake machine manufacturing, laser cutting machine manufacturing, and industrial automation manufacturing. It is equipped with 9 heavy floor boring machines, multiple 4-16m pentahedral gantry machining centers, a 16m large heat treatment annealing furnace, a shot blasting machine, a 20m electric welding platform, a 10000-ton bending machine special assembly platform, and some other heavy processing equipment, with an annual output of more than 5000 sets of various machine tools.



EQUIPMENT



ELECTRIC PRESS BRAKE

WADG Series

Efficient and environmentally friendly servo drive

1

Utilizing advanced servo motor direct drive technology, highly efficient, energy-saving, environmentally friendly, replacing traditional hydraulic systems, achieving full electric control.

Energy-saving by over 70% with zero pollution.

3

Energy consumption reduced by over 70%, more energy-efficient, truly green and environmentally friendly, pollution-free.

High precision with dual drive system, high repeatability

5

Using dual-drive screw drive with high-precision grating ruler, bending accuracy stable at ±0.01mm, high repeatability up to ±0.005mm, greatly improving processing consistency.

Innovative welding, stable and reliable

7

Innovative frame welding process, modular electrical control system, a qualitative leap in equipment stability, and a qualitative leap in equipment reliability.

Double the efficiency of servo bending

2

The WADG series all-electric servo press brake features faster speed and over 50% increased efficiency, making it the optimal choice for transitioning to Industry 4.0.

Intelligent bending, efficient and easy

4

Automated bending function with intelligent calculation and compensation, efficient and energy-saving, making operation easier.

Precision, high efficiency, and long service life

6

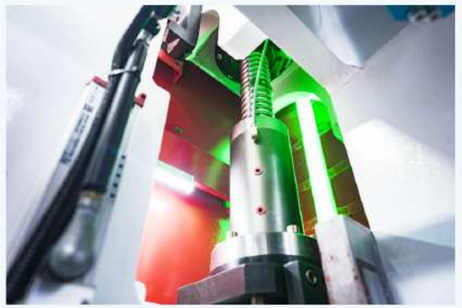
Heavy-duty design, high rigidity, synchronous stability, long service life, precision manufacturing to boost efficient production.

Precision high-efficiency bending

8

Precision bending with dual V design, multi-axis servo drive, fast clamping for high efficiency, and micrometer-level repeat positioning.

PRODUCT DETAILS



Dual-lead Ball Screw Structure

- Dual-load ball screw structure for enhanced operational efficiency and precision through tight connection between bearing seat and frame.
- The enhanced synchronicity and stability make the product more reliable, effectively improving work efficiency.
- This design feature not only guarantees precise operation but also enhances overall performance.

Grating Ruler

- The machine tool is equipped with two sets of grating rulers to ensure synchronization and structural stability.
- The use of grating rulers avoids potential accuracy changes caused by guide rail wear.
- This design helps maintain long-term precision operation of the machine tool and improves work efficiency.

Control System

- Utilizes high-speed acceleration and deceleration algorithms and trajectory prediction algorithms for precise and smooth motion control, balancing speed and accuracy effectively.
- Intelligent angle compensation and material parameter database to improve bending accuracy and simplify operation.
- High-end CNC systems equipped with high-speed and high-precision control algorithms to ensure high bending accuracy and smooth motion.

Spindle Power Box

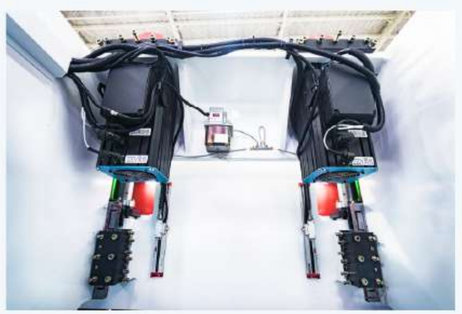
- Design of heavy-duty ball screws and bearings to provide high durability and stability.
- The ultra-long lifespan design ensures the long-term reliable operation of the equipment.
- Sealing protection effectively prevents external dust from affecting critical components.

Monitoring System

- The intelligent tool load monitoring system ensures tool safety.
- The system can monitor tool loads in real time, improving production efficiency.
- The intelligent monitoring system has reduced the risk of tool wear and damage, extending tool life.

High Rigidity Frame

- The frame of the product is constructed using welded steel plates, which are shot blasted for enhanced rigidity, ensuring high strength and durability.
- The frame is processed and shaped by a CNC vertical machining center after being clamped once, ensuring the parallelism and perpendicularity of each mounting surface.
- Surface shot blasting reduces internal stress for minimal deformation during bending, ensuring consistent straightness and angularity of workpieces.



Synchronous Control Device

- Dual grating ruler system enhances machine tool synchronization and structural stability, preventing accuracy deviations due to guide rail wear.
- Utilizing dual overload ball screw drives enhances synchronization and stability in machine tools.
- Design a hinge structure to avoid eccentric load damage to the lead screw, combined with grating ruler feedback control to achieve precise positioning, improving operational accuracy and reliability.

Backgauge System

- Servo motors drive ball screws on X-axis, R-axis, Z1-axis, and Z2-axis for precise positioning in the rear material stop system.
- Utilizes dual linear guide structure for high-precision positioning and fast speeds, improving positioning accuracy and speed of servo motor drive.
- Flexible selection of multiple shaft levels, reliable expansion of system functions, while maintaining precise positioning, to meet various production needs.

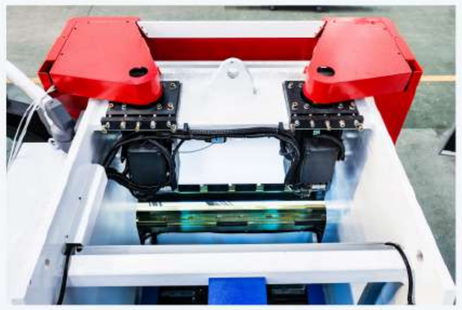
PRODUCT DETAILS

Cantilever Operating System

- Cantilever operating system offers ergonomic design for comfortable and convenient operation, improving efficiency.
- The equipment is equipped with a mobile control foot switch to guarantee safe and reliable operation.
- Rational electrical wiring design enhances maintenance and troubleshooting efficiency, ensuring stable and reliable equipment operation.

Crowning System

- The compensation system automatically calculates bending pressure and angle for intelligent compensation, improving bending accuracy.
- Special throat deformation compensation device eliminates the influence of frame deformation, ensuring bending quality.
- CNC system provides real-time control, achieving high-precision bending angles.



Servo Drive System

- Y1/Y2 positioning accuracy repeatability with grating ruler or magnetic ruler feedback: ±5μm, enabling high-precision bending.
- Using pure electric servo drive, with fast response speed and high bending efficiency, compared to hydraulic press brakes, energy saving can reach over 70%.
- No need for hydraulic oil, environmentally friendly, low maintenance costs, enhancing equipment sustainability and economic benefits.

Fast Clamp

- The upper die adopts a small gooseneck quick clamping die, and the lower die is designed with a double V core for easy loading and unloading, and precise positioning.
- The upper die features a precision quick clamping function for easy die changing, increasing production efficiency.
- The double V core design of the lower die enables flexible adjustments, reducing labor intensity and increasing production efficiency.

EP700B CNC SYSTEM

- The EP700B series controller is a programmable controller developed for press brakes, featuring high real-time control performance and extensive programmability.
- It enables flexible automatic sequencing and extension of bending processes, higher production efficiency, and intelligent control, facilitating precise control of press brakes.
- The system supports valve control, pump control, and full electric 3+1, 4+1, and 6+1 axis bending control. It optimizes process actions during bending to achieve seamless transitions between rapid descent and work advance, ensuring smooth and precise control of each process action.

Features

- A 15-inch integrated CNC system with a display, standard configuration of 4+1 axes.
- High-speed real-time EtherCAT bus control, high real-time performance, easy to expand; reserved for Internet of Things interface, external communication interface;
- Advanced hydraulic control algorithms;
- Integrated robotic arm control;
- Industry-specific controls; support for custom development based on customer requirements;
- Extensive library of molds.

Specifications

Project	
Processor	Intel Celeron 3855U dual-core processor with a clock speed of 1.6GHz
Touch screen	15-inch TFT display with a resolution of 1024*768
Protection level	IP65 front panel, IP20 rear cover
Display interface	DVI-D/VGA
Standard bus	Ethernet: 1 channel supports download monitoring and ModbusTCP EtherCAT master-slave station: 1 channel, minimum cycle 500us, 10 axes USB*4 / RS485*2
Memory	4GB DDR3L +SSD 64GB
System	Linux + OSADL
Power Supply	24VDC

DELEM DA-66T

- The DA-66T offers 2D programming that includes automatic bend sequence calculation and collision detection. Full 3D machine set-up with multiple tool stations giving true feedback on the product feasibility and handling.
- The touch screen gives access to the proven Delem user-interface and enables direct navigation between programming and production. Functions are directly located where you need them, offering optimised ergonomics throughout the application.

Features

- 2D graphical touch screen programming mode
- 17" high resolution colour TFT
- Full Windows application suite
- Delem Modusys compatibility (module scalability and adaptivity)
- USB, peripheral interfacing
- User specific application support within the control's multitasking environment
- Sensor bending & correction interface Profile-TL offline software

Specifications

Standard	
Display	Colour LCD display
Type	17" TFT, high brightness
Resolution	1280 x 1024 pixels, 16 bit colour
Touch sensor	Full touch screen control (IR-touch)
Backlight	LED
Memory capacity	1 GB
Product and tools memory	256MB
Characteristics	3D graphics acceleration
Networking	Standard Windows® networking
Safety system	Emergency switch
OEM machine functions	Integrated OEM-panel
Exchangeable memory	USB flash memory drive
Offline software	Profile-TL

DELEM DA-69T

- The DA-69T offers 2D as well as 3D programming that includes automatic bend sequence calculation and collision detection. Full 3D machine set-up with multiple tool stations giving true feedback on the product feasibility and handling.
- Highly effective control algorithms optimise the machine cycle and minimise set-up time. This makes using press brakes easier, more efficient and more versatile than ever. The OEM-panel located above the screen, reserved for machine functions and OEM-application switches, is integrated in the design and can be used depending the required application.

Features

- 3D and 2D graphical touch screen programming mode
- 3D visualisation in simulation and production
- 17" high resolution colour TFT
- Full Windows application suite
- Delem Modusys compatibility (module scalability and adaptivity)
- USB, peripheral interfacing
- User specific application support within the control's multitasking environment
- Sensor bending & correction interface
- Profile-T3D offline software

Specifications

Standard	
Display	Colour LCD display
Type	17" TFT, high brightness
Resolution	1280 x 1024 pixels, 32 bit colour
Touch sensor	Full touch screen control (IR-touch)
Backlight	LED
Memory capacity	2 GB
Product and tools memory	256MB
Characteristics	3D graphics acceleration
Networking	Standard Windows® networking
Safety system	Emergency switch
OEM machine functions	Integrated OEM-panel
Exchangeable memory	USB flash memory drive
Offline software	Profile-T3D

PARAMETERS

Name			Unit	Parameters
Nominal pressure			ton	40
Worktable			mm	1600
Column distance			mm	1250
Throat depth			mm	300
Ram stroke			mm	200
Maximum opening height			mm	480
Backgauge stroke			mm	500
Ram moving speed	Idle		mm/s	200
	Working		mm/s	0-30
	Return		mm/s	200
CNC system	Model		/	EP700B
	Axis		/	4+2 / Y1、Y2、X、R、Z1(Electric)、Z2(Electric)
Machine accuracy	Y1 and Y2 ram positioning		/	±0.02 mm
	Y1 and Y2 ram repeat positioning		/	±0.01 mm
	Backgauge X-axis repeat positioning		/	≤±0.01mm
	Backgauge R-axis repeat positioning		/	≤±0.02mm
	Bent workpiece angle tolerance		/	±25'/Total length
	Bent workpiece straightness tolerance		/	0.20mm/1000mm
Main servo motor	Power	kW		18
	Quantity	set		2
Dimensions of the machine	Length	mm		1900
	Width	mm		2000
	Height	mm		2400
Weight		ton		4

COMPONENTS

Name	Supplier
Main servo motor	Inovance
Rear material stop linear guide	HIWIN
Rear material stop ball screw	HIWIN
Heavy-duty ball screw	LAIEN
Electrical components	Schneider
Bearings	NSK or NACHI
CNC system EP700B	Inovance
Magnetic scale	GIVI
Synchronous belt	GATES

Equipment Eorking Environment

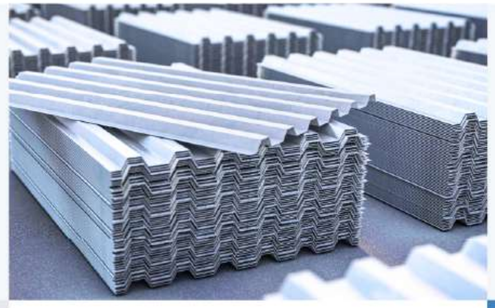
Name	Parameters
Power requirements	Three-phase four-wire system, 380V, 50Hz
Installation site	Clean, minimal dust
Maximum temperature	40°C
Minimum temperature	-5°C
Relative humidity	55-85%
Altitude	Below 1000 meters

APPLICATIONS

- The all-electric servo press brake is widely used in various industries due to its outstanding advantages of high efficiency, precision, energy saving, and environmental protection.
- Ideal for high precision industries like high and low voltage switchgear, medical equipment, and precision sheet metal fabrication.
- All-electric servo press brake excels in new energy storage equipment and chassis cabinets industries, offering high-quality bending solutions with precision and efficiency.
- Its environmentally friendly and low energy consumption characteristics align well with the modern industrial trend of energy saving and emission reduction.

Construction and Decoration Industry

Process various decorative sheet materials such as curtain wall panels, advertising boards, elevator decorations, etc.



Sheet Metal Fabrication Industry

Used for processing various metal sheets such as stainless steel, aluminum alloy, cold-rolled plate, etc., manufacturing products such as chassis, cabinets, kitchenware, elevator decorations, etc.

The kitchenware Industry

Manufacturing stainless steel kitchen cabinets, range hoods, and other kitchen equipment.

Aerospace Industry

Process thin sheet metal parts such as aircraft skins and rocket casings.

Power Electronics Industry

Fabrication of electric power equipment housings, distribution boxes, as well as chassis and cabinets for electronic devices.

Rail Transportation Industry

Manufacturing interior and exterior decorative panels and structural components for high-speed trains and subway carriages.

Automotive Manufacturing Industry

Manufacture thin sheet metal components for automobile bodies and chassis, such as inner and outer door panels, engine hoods, trunk lids, etc.

Household Appliance Industry

Fabricate panels for household appliances such as refrigerators, washing machines, and air conditioners.

Quality Control

- Our press brake manufacturing leads the industry in China, setting benchmarks for quality and performance.
- Our quality inspection process rigorously follows industry standards, ensuring the reliability of our machines.
- Continuous operation of testing machines guarantees compliance with the highest standards before our products are dispatched.

Delivery (packaging)

- Offers customizable packaging options, including wooden cases, for sea transportation to ensure machine integrity upon delivery.
- Standard machines are available for delivery within a 20-day time frame.
- The machine employs an advanced fixing method that guarantees stability and eliminates vibration during container transport.

Pre Sale

- Custom-tailored selection of press brakes and tooling to match specific customer processing needs, optimizing bending quality and operational efficiency.
- Comprehensive engineering review ensures recommendations for the most cost-effective solution for the user.
- Provision of a finalized, engineer-approved solution that best fits the user's requirements.

On Sale

- Commitment to customer satisfaction through strict adherence to contractual terms.
- Rigorous quality assurance protocols for all equipment delivered.
- Continuous and proactive communication to keep the customer informed throughout the sales process.

After Sales

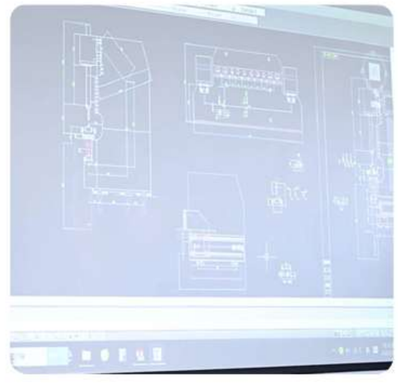
- Customers benefit from a 1-3 year warranty with complimentary part replacements, ensuring long-term product reliability and user satisfaction.
- Professional remote assistance and door-to-door services are accessible, offering personalized and convenient support options.
- The after-sales experience is enhanced by tracking services and the creation of user service files, streamlining maintenance for regular customers.

Parts

- Prompt delivery of custom accessories to meet specific customer requirements.
- Focus on minimizing downtime by ensuring continuous machine operation.

Generality

- The machine features components from globally recognized brands, ensuring easy accessibility to replacement parts worldwide.
- Local sourcing of identical parts is facilitated, providing convenience in maintenance and repair.



Customization

- We specializes in creating tailored machinery and tooling solutions designed to meet the unique specifications of each customer's workpieces.
- Customization ensures optimal compatibility and efficiency for a diverse range of workpiece requirements.