ADH MACHINE TOOL
220T/4000
Y1
Y2

How to Use Press Brake

A Comprehensive Guide

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Introduction

Definition & History

- Essential for metal fabrication, bends metal sheets into shapes.
- Dates back to manual operation in the 19th century.
- Evolved to hydraulic-driven in the 1930s, enhancing efficiency.

Types of Press Brakes

- **Mechanical:** Fast, simple, needs regular maintenance.
- **Hydraulic:** Consistent force, quieter, longer lifespan, slower operation.
- **Electric:** Energy-efficient, fast response, high initial cost.
- **CNC:** High precision, complex shapes, labor-saving, high initial cost.

Components & Functions

Main Components

Frame, bed, ram, die, back gauge, controller.

Operation

Ram exerts pressure, back gauge positions metal, controller adjusts force.

How It Works & Tips

01

Principle

Uses C-shaped frames, punch, and die for bending.

02

Metal Forming Tips

Material hardness affects springback, softer materials fit better.

Safe Operation Procedures

Pre-Use Preparation

Checklist: Inspect for damage, ensure all parts function correctly.

Safety First: Equip protective gear - goggles, gloves, shoes.

Die Selection

Match with Task: Choose the right top and bottom dies for your bending needs.

Metal Sheet Placement

Machine Setup

Precision Placement: Use back gauge for accurate bends.

Parameters: Adjust pressure and speed based on material properties.

Starting the Machine

Engage: Activate the press, begin bending.

During Operation

Vigilance: Monitor the process, avoid hand placement near dies.

Post-Operation

Shut Down: Turn off the machine, clean the area, store tools safely.

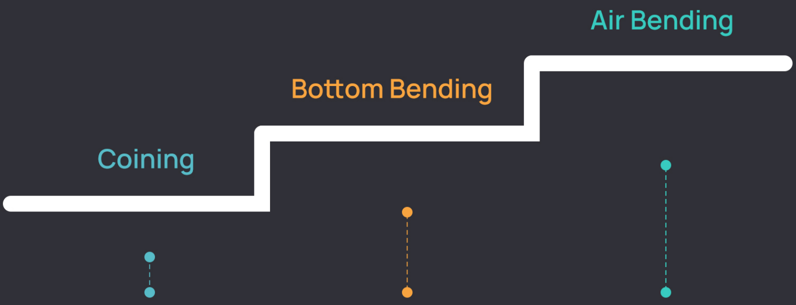
Safety Tips

Trained Personnel: Only trained operators should use the machine.

Avoid Loose Clothing: Prevent entanglement in the machine.

Regular Maintenance: Keep the machine in optimal condition.

Press Brake Bending Techniques



High precision, high force.

Precise angle, high pressure.

Flexible, less force required.

Maintenance and FAQs

Maintaining

Regular checks on hydraulic and mechanical systems.

Differences

CNC vs traditional - CNC is automated, traditional is manual.

Optimal Performance

Regular inspections, maintaining hydraulic circuit and mechanical system.

Conclusion

- Press brakes are crucial in metal fabrication for efficiency and precision.
- Proper operation and maintenance are key for optimal performance.