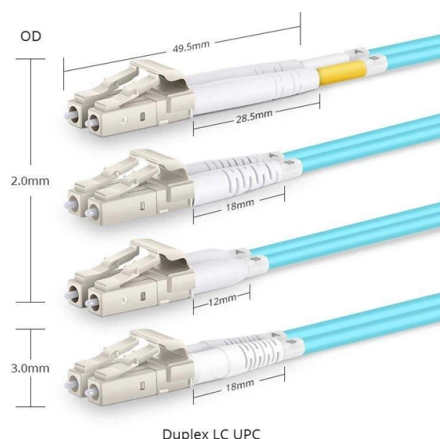


Automatic bending of distribution box



Overview

Automatic Power Distribution Box Production Line This production line is equipment for production of distribution boxes. The strip coil to be processed is m.

Key Takeaways

Automatic bending of distribution boxes is achieved using specialized panel benders and production lines that combine feeding, forming, and bending processes for high precision and efficiency. Overview of Automatic Bending Systems

Automatic bending systems for distribution boxes are designed to streamline the production of electrical enclosures by integrating multiple operations such as feeding, punching, cutting, and bending. These systems can handle materials like cold-rolled steel, galvanized steel, and stainless steel, and are capable of producing boxes with varying heights, depths, and thicknesses .

Key Components and Workflow

- Material Feeding and Straightening: The raw sheet or coil is loaded onto an uncoiler and straightened to ensure flatness before processing .
- Punching and Notching: Hydraulic or servo-driven punching devices create holes, notches, or pre-cuts required for assembly .
- Forming and Bending: The sheet is guided into a panel bender or roll forming machine, where it is bent into the desired shape. Servo-driven systems allow precise control over angles, bend positions, and repeatability .

- **Cutting and Profiling:** Some systems, like the Salvagnini P2, can cut and bend multiple profiles from a single flat sheet, producing the main box, edge profiles, and stiffeners in one automated sequence .

- **Unloading and Assembly:** Finished parts are automatically unloaded and can be stacked or sent for assembly, reducing manual handling .

Types of Automatic Benders

- **Servo-driven Panel Benders:** Offer high precision, repeatability, and flexibility for different box sizes and thicknesses. They include automatic feeding, clamping, bending, and optional pick-and-place systems .

- **Multifunctional Panel Benders:** Machines like DurmaPress PBE can perform UP and DOWN bending, HEM bending, and large arc bending automatically, with fast cycle times and universal tooling for multiple applications .

- **Compact Lean Production Benders:** Systems like Salvagnini P2 are suitable for small to medium production runs, bending a complete electrical box in under 2 minutes from a single flat sheet .

Advantages of Automatic Bending

- **High Productivity:** Capable of producing multiple enclosures per minute depending on specifications .

- **Precision and Consistency:** Servo-driven systems ensure accurate bends and repeatable quality .

- **Flexibility:** Can handle different materials, thicknesses, and box designs without extensive retooling .

- **Reduced Labor:** Minimizes manual handling and assembly time, improving overall efficiency .

Applications

Automatic bending systems are widely used in electrical enclosure manufacturing, including distribution boxes, control panels, and industrial cabinets. They are also applicable in architectural panels, shelving, industrial equipment, and cleanroom components . In summary, automatic bending of distribution boxes leverages advanced panel benders and integrated production lines to achieve high-speed, precise, and flexible manufacturing, significantly improving efficiency and product quality compared to manual bending methods .

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