

RIVO MULTITRADE OPTICAL SYSTEMS

Bending the body of the distribution box

LoRawan outdoor base station



Overview

BDC1500 | Outdoor Distribution Box Bending To make outdoor power supply safe and stable, distribution box is of the essence. In this A Guide to Professiona.

Key Takeaways

Bending the body of a distribution box involves forming sheet metal into a precise enclosure using press brakes or automated bending machines, ensuring accurate angles, proper bend sequence, and material integrity. Overview of the Process

The body of a distribution box is typically made from sheet steel, galvanized steel, or plastic composites, with metal being the most common for durability and electrical safety . Bending transforms flat metal sheets into a box shape with vertical flanges and 90° corners, creating the enclosure that houses circuit breakers, busbars, and terminals .

Tools and Techniques

- Press Brakes: Manual or CNC press brakes are widely used. They position the sheet over a die block, and a punch presses the metal into the die to form the desired shape .
- Box Bending Tooling: Gooseneck punches and specialized dies prevent collisions during final bends and allow tight bend spacing .



- Bending Types: Common methods include air bending, bottoming, and coining, each affecting bend accuracy and springback differently .

Key Considerations

- Flat Pattern Layout: Accurate initial flat patterns are crucial; incorrect layouts can prevent the box from squaring up .
- Bend Sequence: Following the correct order of bends avoids collisions and ensures the box remains square .
- Springback Compensation: Metals tend to partially return to their original shape after bending, so over-bending may be necessary to achieve precise angles .
- Material Thickness and Properties: Thicker or harder metals require more force and may influence bend radius and tooling choice .

Automated Production Lines

For high-volume production, automatic distribution box production lines are used. These lines include uncoiling, straightening, feeding, hydraulic bending, and roll forming stages, producing multiple enclosures per minute with consistent quality . Automation ensures precise bends, reduces manual labor, and maintains repeatability.

Finishing

After bending, boxes may undergo punching, drilling, welding, and surface finishing such as powder coating or phosphate coating to enhance durability and corrosion resistance . This ensures the enclosure is both functional and safe for electrical applications.

Summary

Bending a distribution box is a precision metalworking task that combines proper tooling, bend sequence, and material handling. Whether using a manual press brake or an automated production line, attention to springback, bend radius, and flat pattern accuracy is essential to produce a safe, reliable, and well-aligned enclosure .

Article Content

How to Install a Cable Distribution Box Safely and Correctly?

In modern electrical systems, cable distribution boxes (also known as electrical distribution boxes or distribution

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