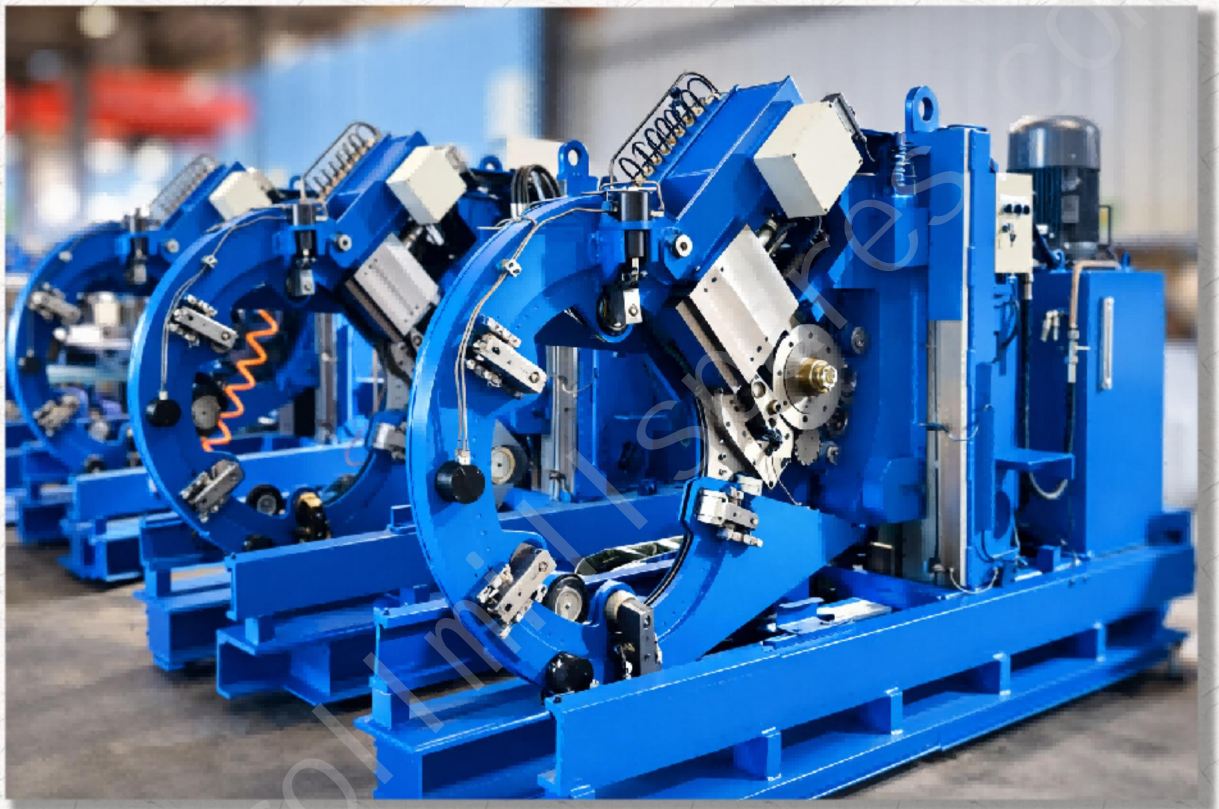




**Guangdong Burton Intelligent Equipment Co., Ltd**





# BAR BUNDLING MACHINE

## TECHNICAL SPECIFICATION

**Equipment Model:** BDNA-800

**Equipment Type:** Automatic Bar Bundling Machine

### 1. General Description

The BDNA-800 Automatic Bar Bundling Machine is designed for automatic bundling and wire twisting of finished bar bundles in the finishing area of bar rolling mills.

The machine performs fully automatic operations including bundle positioning, clamping, wire feeding, pre-tensioning, twisting and cutting. It is hydraulically driven and PLC controlled, ensuring stable and reliable operation suitable for continuous production in high-speed bar rolling lines.

The system supports **automatic, semi-automatic and manual operating modes**, allowing flexible integration with existing rolling mill automation systems.

### 2. Application Range

#### 2.1 Bar Specifications

Item	Specification
Bar type	Deformed reinforcing bars
Bar diameter range	φ 10 – φ50 mm
Bar length	6 m / 9 m / 12 m

#### 2.2 Bundle Specifications

Item	Specification
Bundle weight	1,500 – 5,000 kg
Bundle diameter range	150 – 550 mm

## 2.3 Production Capacity

Item	Specification
Designed annual capacity	≤ 1,000,000 tons per year (matched to rolling mill throughput)

## 3. Main Technical Parameters

No.	Item	Technical Data
1	Bundling method	Single loop, single pass
2	Bundling cycle time	≤ 8 s per bundle
3	Binding material	Steel binding wire
4	Tightening force	≥ 9,000 N
5	Operating modes	PLC automatic / semi-automatic / manual
6	Hydraulic working pressure	Approx. 10 MPa
7	Hydraulic oil flow rate	Approx. 100 L/min
8	Main motor power	11 kW
9	Power supply	380 V / 50 Hz
10	Control voltage	24 V DC

## 4. Equipment Composition and Structure

### 4.1 Base Frame and Structure

- Heavy-duty welded steel structure
- Base frame equipped with guide wheels to support the machine frame, hydraulic unit and control cabinet
- During maintenance, the machine can be manually moved out of the bundling position along the roller table by approximately **1400 mm**

### 4.2 Bundling Head Assembly

The bundling head mainly consists of:

- Closed wire guide track system
- Wire feeding mechanism
- Twisting head
- Wire cutting device

The bundling head is driven by hydraulic cylinders and can move vertically to adapt to different bundle sizes.

## 4.3 Bundle Compactor

- Mechanical linkage structure
- Hydraulically driven
- Four-direction clamping system to uniformly and securely clamp the bar bundle
- The bundle compactor can be supplied by the customer or provided according to project agreement

## 4.4 Hydraulic System

The hydraulic system provides all driving power for the machine and includes:

- Hydraulic power unit (oil tank, hydraulic pump, electric motor)
- Solenoid valve groups
- Pressure gauges, oil level indicators and filters

The hydraulic system drives the vertical movement of the bundling head, bundle clamping and twisting operations.

## 4.5 Electrical and Control System

- Siemens PLC control system
- Local control cabinet installed near the machine
- Remote control interface reserved for interlocking with the customer's main automation system
- Automatic, semi-automatic and manual modes selectable via control system

# 5. Standard Operating Sequence

The standard operating cycle of the bar bundling machine is as follows:

1. The machine is in initial position; bundling head is in upper position and the wire guide track is closed
2. The bar bundle enters the bundling station via roller table and stops
3. The bundle compactor clamps the bar bundle from four directions
4. The wire feeding unit feeds the binding wire
5. The system automatically performs pre-tensioning to ensure tight contact with the bundle
6. After both wire ends are clamped, the twisting head rotates to complete the twist
7. The binding wire is automatically cut after twisting
8. The bundle compactor opens and the machine returns to its initial position
9. A release signal is given, allowing the bundle to leave the bundling station

The complete bundling cycle time is approximately **8 seconds**.

## 6. Twisting System Features

- Disc-type twisting structure
- Twisting head contacts the finished bar bundle at an angle of approximately **45°**
- Optimized force distribution ensures stable and reliable knot formation
- No binding wire waste during twisting
- Modular twisting head design allows easy replacement of wear parts and full interchangeability

## 7. Detection and Control Configuration

- Complete set of detection and monitoring devices
- Key sensors such as proximity switches and encoders are of imported brands
- Supports automatic start detection, status monitoring and fault alarms
- Supports signal interlocking with the rolling mill main control system

## 8. Scope of Supply

### 8.1 Standard Supply

No.	Description	Remarks
1	Automatic Bar Bundling Machine	Model BDNA-800
2	Hydraulic system	Including hydraulic power unit and accessories
3	PLC control cabinet	Including operator panel
4	Technical documentation	Mechanical / electrical / hydraulic
5	Operation & maintenance manual	English and Chinese versions

### 8.2 Exclusions

- Bundle compactor (if supplied by customer)
- Binding wire coil stand
- Equipment foundation, anchor bolts, embedded parts and civil works
- Power supply, water supply and compressed air
- Hydraulic oil, lubricants and commissioning materials

## 9. Installation, Commissioning and Training

- Equipment installation shall be carried out by the customer
- The supplier shall dispatch engineers to provide on-site guidance for installation and commissioning
- Training shall be provided for the customer's operators and maintenance personnel
- Training ensures independent operation and routine maintenance of the equipment

## 10. Conclusion

**The BDNA-800 Automatic Bar Bundling Machine features a proven structure, stable performance and high reliability. It is suitable for continuous operation in high-speed bar rolling mills, effectively improving bundling efficiency and consistency while reducing labor intensity and operational risk.**



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