





Paper Wrapping Machine (Servo Type)

Technical Parameters and Quotation

Equipment Overview

Application

Suitable for wrapping multi-layer mica tape, non-woven fabric, paper tape, film, and similar materials. The wrapping heads can rotate forward and reverse, and the complete machine operates with intelligent coordinated control.

Production Process Flow

Pay-off → Straightening machine → Wrapping head → Wrapping head → Caterpillar puller → Take-up

The Production Line Includes the Following Equipment/Components

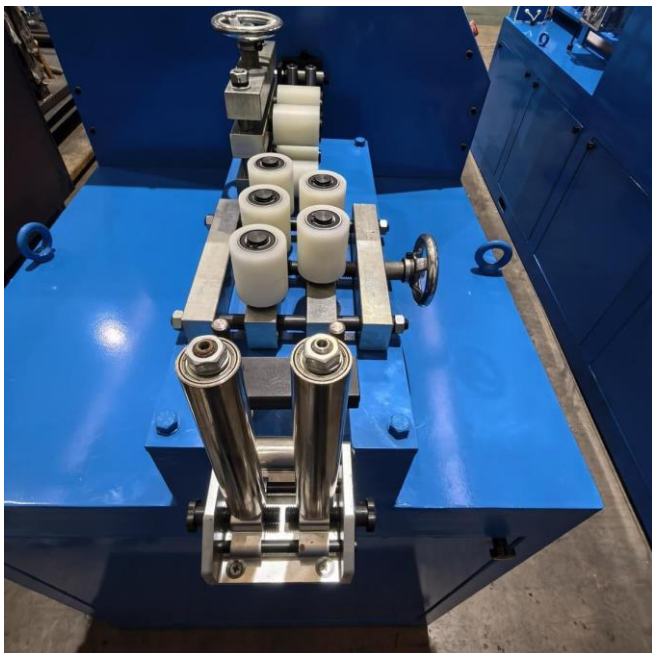
No.	Component	Qty
1-1	Magnetic-powder pay-off stand	1 set
1-2	Straightening machine	1 set
1-3	Servo wrapping head	2 sets
1-4	Caterpillar (track) puller	1 set
1-5	Servo centering take-up machine	1 set
1-6	PLC control system	1 set



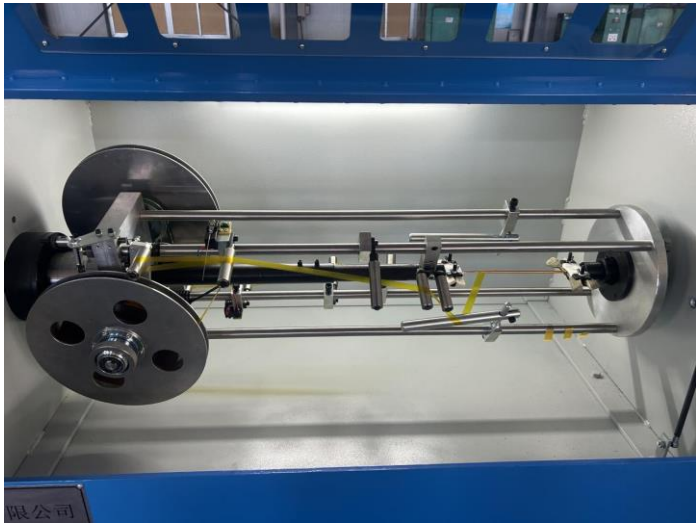
Part 1: Detailed Parameters of Each Component

SN	Component Name	Qty	Remarks
1	Magnetic-powder pay-off machine	1	Structure: Shaftless structure, magnetic-powder tension pay-off, electric lifting. Reel diameter: Ø800 mm, width 600 mm, tip Ø80 mm. Reel lifting: Motorized lead-screw lifting of the reel; press the up/down buttons to raise or lower the reel. Tension control: 5 kg magnetic-powder brake controls pay-off tension; equipped with a tension display for viewing and adjusting the pay-off tension.
			
2	Straightening machine	1	Uses a set of 5 vertical and 5 horizontal roller assemblies; roller diameter 50 mm, nylon rollers. Straightens the material horizontally and vertically as it passes through the rollers, ensuring the wire/strip enters the wrapping machine centered in both planes. Roller spacing is adjusted by a handwheel.

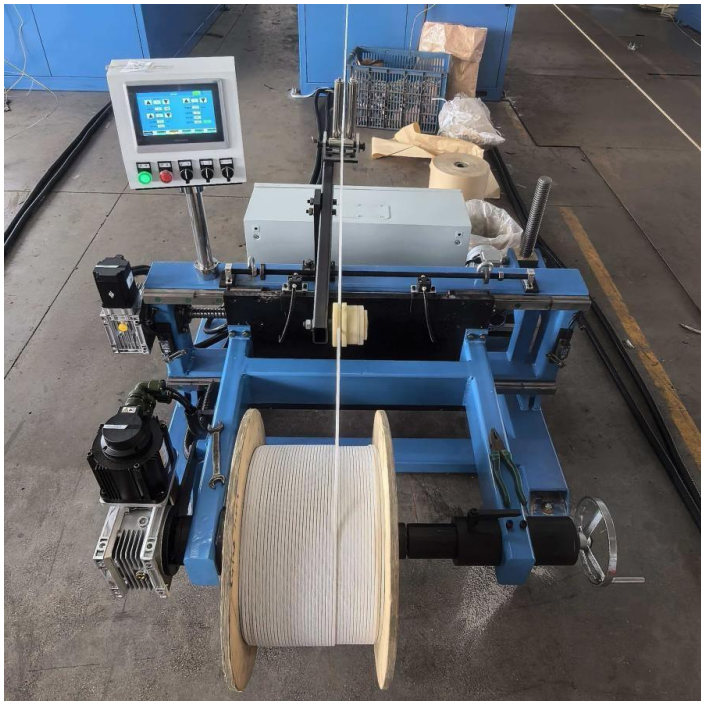


SN	Component Name	Qty	Remarks
			
3	Servo wrapping head	2	Driven by a 1.3 kW servo motor. Paper-reel diameter 300 mm, core diameter 76 mm. Each wrapping head wraps 2 layers, 4 layers in total. Includes paper-break and paper-run-out switches. The wrapping-head guard door is interlocked with the head — when the guard door is opened, the wrapping head stops rotating; a fluorescent light is installed inside the enclosure. Wrapping pitch: pitch is controlled by the servo motor with pitch jitter/error under 0.2 mm. The pitch can be set or changed on the touchscreen during production. The machine has a paper-break stop function — when the paper breaks, the machine alarms and stops automatically. A felt clamp at the center of the wrapping head secures the conductor to prevent it from shaking. Note: both heads are capable of in the same direction or in opposite directions, and only one head working is ok also.



SN	Component Name	Qty	Remarks
			
4	Caterpillar (track) puller	1	Driven by a 1.3 kW servo motor. Track: the pulling belt is made of wear-resistant rubber synchronous flat belt. Includes a meter-counting device (allows stopping at a set length).
			
5	Servo centering take-up machine	1	Moving-reel take-up: the reel moves while the wire stays stationary; independent touchscreen control. Reel diameter: 500–600 mm.



SN	Component Name	Qty	Remarks
			Reel width: 280–350 mm. Structure: shaftless structure; servo-driven reel movement for automatic traversing (wire-laying), servo motor driven. A guide rail is mounted on the side of the machine, keeping the take-up position fixed and ensuring the machine takes up at a fixed center point to prevent damage to large-size flat wire. Reel lifting: electric lifting, controlled via up/down buttons. Clamping: hand-wheel type reel locking, easy to operate. Traversing (wire-laying) method: a servo motor drives a lead screw that moves the reel along the linear guide rail for wire-laying. Intelligent control: the take-up machine is equipped with a PLC + touchscreen control system; traverse width, traverse pitch, take-up speed, and line speed are all precisely controlled for neat winding. Take-up drive: servo motor with controller.
			



Part 2: Technical Description

1. Equipment Production Range

1) Basic conductor parameters (copper/aluminum):

- Conductor thickness: 0.80–8.00 mm; conductor width: 2.00–20.0 mm
- Round wire diameter: Ø1.50–20.00 mm
- Cross-sectional area: 5.00–314.00 mm²

2) Insulation paper used:

- Can wrap insulation paper, various films, polyester non-woven fabric, NOMEX, and other materials.
- Insulation paper thickness: 0.05–0.125 mm; film thickness: 0.015–0.05 mm.

4) Insulation wrapping layers: up to 2+2 = 4 layers per pass.

2. Equipment Performance

- Paper reel diameter: Ø 300 mm
- Paper tape width: 5–35 mm
- Wrapping-head rated speed: 700 rpm
- Wrapping-head maximum speed: 900 rpm
- Adjustable paper overlap: preferably 0–65%
- Maximum mechanical line speed: 15 m/min
- Wrapping pitch: 4–40 mm

Note:

- 1) The smaller the conductor width (or diameter), the narrower the matched insulation material width, and the smaller the wrapping pitch on the conductor. A smaller pitch requires a higher wrapping-head speed, and vice versa — a larger conductor width requires a lower wrapping-head speed. At the same wrapping speed, a larger conductor width results in a faster line output speed and higher efficiency.
- 2) Paper thickness determines the wrapping speed. Thinner paper is more prone to breaking at high wrapping speed, so the wrapping speed must be reduced to avoid frequent paper breaks, which lowers production efficiency. For the same specification, film has higher tensile strength than paper and is less prone to breaking.
- 3) Automatic mode — enter the wrapped conductor's width and thickness on the touchscreen, and the traversing (wire-laying) speed and pitch are calculated automatically. When the overall line speed increases or decreases, these values change synchronously without manual intervention. Manual mode — changing the



wrapping paper roll, adjusting the wrapping angle, etc. are manual operations.

3. Equipment Overall Dimensions

- Maximum width: 1,360 mm
- Overall installed length: 14 m
- Total installed power: 7 kVA

4. Other Auxiliary Functions

- The main machine uses PLC control with touchscreen operation.
- Speed, wrapping direction, wrapping pitch, etc. are all adjusted on the touchscreen.
- The touchscreen includes a built-in process-calculation program.
- Proprietary feature: paper-break / paper-run-out switches, reducing paper-splicing downtime.
- High-precision meter-counting device with a set-length stop function.

5. Installation Requirements

- The buyer needs to provide 3 phases, 5-wire power supply (an independent ground wire is required!).
- The equipment is fixed using expansion bolts.

6. Key Materials

- Main electrical components: PLC, touchscreen, servo drive, servo motor brand: Inovance
- LV electrical components: Chint
- Frame surface treatment: powder coating.

7. Equipment Motor Power

Name	Servo Motor Power	Qty	Motor Brand
Wrapping motor	1.3 kW	2	Inovance
Pulling (traction) motor	1.3 kW	1	Inovance
Take-up motor	1.3 kW	1	Inovance
Traversing motor	0.75 kW	1	Inovance