



Professional Grade 500B Double Twist Bunching Machine with 2 Year Warranty!

The quality of our **500B Double Twist Bunching Machine** is second to none. Can do conductor stranding from 0.0088mm² to 0.45mm². products are widely used in **IT communications, aerospace, military, medical, locomotives, automobiles, robots, ships, 5G cloud databases and other fields.**

500B Double Twist Bunching Machine apply for the bunching of aerospace, medical instrument, cellphone, notebook PC and ultra fine conductor (above seven pcs of alloy wires, tinned wires, silver jacketed wires and enamelled wires).

Merits:

1. **500B Double Twist Bunching Machine** is High speed, constant tension from empty reel to full reel, excellent quality of stranded wire, which can be used for stranding instead of stranding to meet customer's requirements for stranding of small cross-sectional area. The whole machine is driven by a synchronous belt, and only the take-up wheel needs to be replaced when changing the lay length, easy to use

2. IoT (optional): **500B Double Twist Bunching Machine** information of multiple devices can be integrated on multiple mobile phones or computers, and the operation of the machine can be checked at any time, such as speed, stranding specifications, line speed, output, equipment maintenance, etc., and can be online at the same time Diagnosis and remote maintenance, etc., to achieve refined management and reduce production and maintenance costs.



This **500B Double Twist Bunching Machine** is CE approved



3. Can fit 380V to 440V, 50HZ to 60HZ, color can be customize

3 phase 4 wires, R, S, T, PEN

3 phase 5 wires, R, S, T, PE, N

4. Type:

500B Double Twist Bunching Machine for single wire 0.08-0.45mm stranding, cross section 0.5-2.5mm², pitch range 6.3-52.3mm (please refer to page 5-9)

500B Double Twist Bunching Machine for single wire 0.08-0.52mm stranding, cross section 0.5-2.5mm², pitch range 6.3-52.3mm (please refer to page 10-15)

500B Double Twist Bunching Machine for single wire 0.08-0.25mm stranding, cross section 0.5-2.5mm², pitch range 6.3-52.3mm (please refer to page 16-22)



5. Some option:

Set-up:

China standard: Veinview HMI + Inovance PLC & Invertor + Siemens Motor

Siemens standard: Siemens HMI & PLC & Invertor+Siemens Motor





Spindle lubrication: manual lubrication / PLC lubricator



Power Cabinet: Embedded type / plug in type / Stand alone type / Synoptic panel type



Spool Lift: manual hydraulic pump / electrical hydraulic pump / electrical screw rod



Take-up tension type: Magnetic powder clutch / Hollow shaft clutch / Hysteresis clutch



IOT remote system and temperature sensor



Pay terms: T/T, L/C.

Package:

- 1) Simple water-prof package
- 2) Pallet package
- 3) Pallet with Vacuum package
- 4) Wooden box package





500B Double Twist Bunching Machine specification

➤ **Merits:**

- 1.High speed and good stability The motor is directly connected to the drive shaft through a rigid coupling)
- 2.Automatic tension control: During stranding, the taking up tension should be increasing from empty to full,(Data set by touch screen) The machine can automatically monitor and adjust the tension smoothly, keep the tension uniform variation ,Can achieve tension setting while working .
- 3.Wiring system: Use the latest structure, the stranded conductor from the spindle wheel directly to the flyer bow, (with) a unique semi-circular groove design, along with a semicircle porcelain ring wiring,Avoid stranded wire scratches and strand jumps caused by wind resistance during high-speed rotation
Spindle lubrication: butter lubrication (Disadvantages of oil lubrication: the oil's temperature increases while high-speed operation , and the oil mist will concentrate into beads on the wall , falling to the reel and pollute the conductor, cause blister when conduct insulating)
- 5.Security protection: If the door contact or lifting limits is not in place, internal and external wire cutting off error display in the touch screen with automatic alarm or can't start.
- 6.Spindle and aluminum plate: after high-speed dynamic balance processing; noise less than 80 dB
- 7.Electrical control: user-friendly touch screen interface operation,control by the PLC programmer + inverter
- 8.Bow use Japan imported SK5 material, with heat treatment and hard chroming
- 9.Transmission system: drive with synchronous belts , laying accurate, no internal lubrication position, no waste products effect by refueling and machine cleaning
Pitch Change : easy to operate, just change the capstan wheel according to the pitch sheet
- 11.Compression device: With internal secondary compression devices to ensure the roundness of the conductor after stranding, guarantee the product characteristics of thin-walled insulated wires, and effectively reduce the loss of insulating materials

➤ **Main performance parameters**

1. Application: tstranding of ultra-fine wire conductors such as aerospace, medical equipment, mobile phones, notebook computers, etc. (over seven strands of alloy wire, tinned wire, silver-plated wire, enameled wire, etc.).
2. Mono-filament diameter range: $\phi 0.08 \sim \phi 0.45\text{mm}$
3. Twisted wire diameter range: $\phi 0.3 \sim \phi 2.1\text{mm}$
4. Stranded cross-sectional area: $0.05 \sim 2.5\text{mm}^2$
5. Spool specifications: $\phi 500 \text{ mm} \times 375\text{mm} \times \phi 56\text{mm}$ (or customize)
6. Normal production speed: up to 2600RPM (5200TPM, According to different stranded wire specifications, the speed is different)
7. Traverse: $\phi 20\text{mm}$ polish rod bearing type traverse , traverse width and row space can be accurately adjusted
- 8.Strand lay length: 6.3 ~ 52.3 mm
- 9.Main motor: 5.5KW AC motor + inverter
- 10.Assembly volume: about 200Kg



- 11.Stranding direction: free option to S / Z, pull the switch bar to change the direction,easy operation
- 12.Brake: With electromagnetic brakes, can achieve automatic braking when internal /external wire cutting off or reach meters
- 13.Tension control: magnetic clutch control thread tension, by the PLC program controller automatically monitor and adjust the tension, keep the tension constant
- 14.Machine drive bearings: spindle with Sweden SKF bearings , the others with Japan NSK bearings
- 15.Synchronous belt: import from US
- 16.Pool loading : Manual hydraulic lifting
- 17.Spindle lubrication: butter lubrication
- 18.Noise index: less than 82dB
- 19.Machine size (mm): 2680L × 1250W × 1500H
- 20.Weight: 2500 Kg
- 21.Coating: RAL5015 light blue (can be customization according to customer requirements)
- 22.Packing: waterproof simple packaging
- 23.Direction: left hand machine, i.e, facing to the front door,pay-off on the right (can be customization according to customer requirements)
- 24.Body and door seal: plastic seal
- 25.Spindle bearing Seal: Mechanical oil retaining ring

➤ **Mechanical Performance**

1.Body structure:

- 1)Material: low carbon steel welded together.
- 2)Structure: the body by annealing and aging, to eliminate internal stress, and then boring by a precision boring machine to forming a molding.

2.Bunching Entry part:

- 1)Bunching Entry position: facing to the front door, at the right side of the machine (can be customization according to customer requirements to change to the left side).
- 2)Bunching Entry Mode : from the pay-off device through the disconnection sensing area, first to the total sub-line board (sub-hole by 1 +6 +12 + ... distribution), through first pressure mold, then the second Pressure mold, after entering the right spindle within the wire guide wheel. From the aluminum arch with porcelain ring and then into the left spindle within the wire guide wheel, and then through the center corner's guide wheel to the leading wheel, Final to the aligner's guide wheel to cable laying (see wire bunching entry pattern diagram)

3.Spindle:

- 1)Material: 40Cr steel forging after quenching and tempering treatment.
- 2)Accuracy: The shaft core outer face diameter and the bearing end face are ground to ensure concentricity and verticality with the axis.
- 3)Dynamic balance: Standard of G2.5

4.Aluminum plate:

- 1)Material: ZL104
- 2)Accuracy: All end faces are positioned relative to the locating holes
- 3)Dynamic balance: Accuracy of G2.5

5.Flyer Bow



- 1)Material: Japan imported SK5.
- 2)Shape: special appearance, reduce the wind resistance.
- 3)Weight tolerance : less than 0.03 grams per pair
- 6.Transmission part: with imported synchronous belt drive, laying length accurate
- 7.Wire entry wheel:
 - 1)Material: # 45 steel finished with heat treatment HRC30-40.
 - 2)Hard chrome plated on the surface, not easy to wear
- 8.Spindle housing:
 - 1)Material: Alloy cast iron.
 - 2)Processing: CNC machine tooling
 - 3)Accuracy: one processing hole end molding, to ensure concentricity.
- 9.Spindle bearing lubrication system:
 - 1)Lubrication method: butter lubrication
 - 2)Butter Model: LGM2 SKF grease
 - 3)Sealing method: mechanical oil retaining ring, keep the machine clean inside
- 10.Take up:Tensile tension control: through the magnetic clutch control thread tension, by the PLC program controller automatically adjust the tension, keep tension constant
- 11.Traverse:Special bi-direction traverse, $\phi 20$ mm polish rod bearing type, traverse width and row space can be accurately adjusted
- 12.Pool Size:

Out Dia (ϕD)	Fix Hole (ϕd)	Outer Length (L1)	Inner Length (L2)	Fasten Hole	PCD
500	56	375	300	25	142

13.Dynamic power : 2.5KW

14.Installed power : 5.5KW

➤ **Detail Specification:**

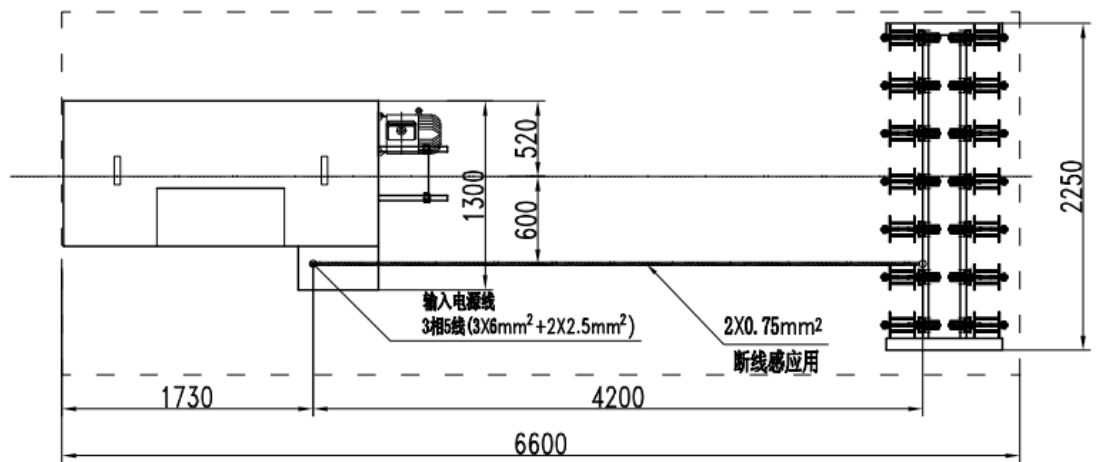
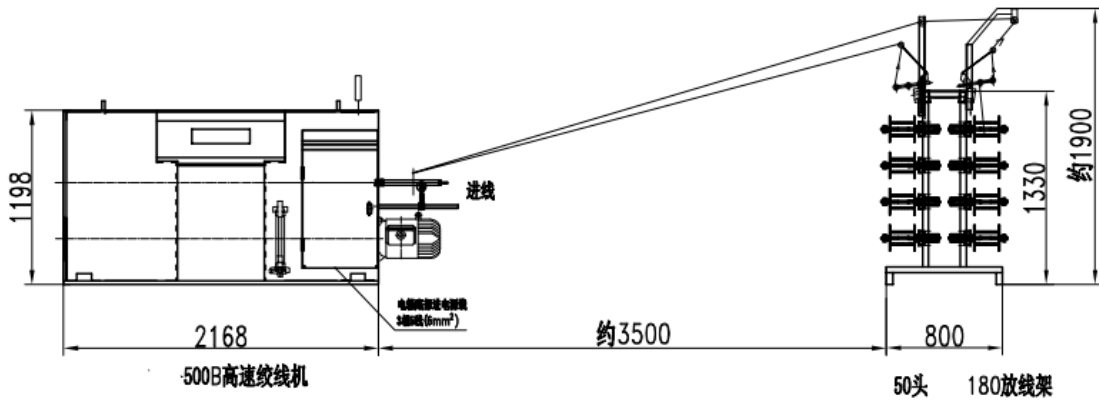
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1.Host Motor	5.5KW-4P 380V 50Hz	SIEMENS
2.Inverter	5.5KW	INOVANCE
3.PLC Programmer	32MR	INOVANCE
4.PLC Expander	VB-3A	INOVANCE
5.Touch Screen	7 inches RGB	WEINVIEW
6.Electromagnetic Brake	24KG	TAIWAN
7. Clutch	1.2kgf	TAIWAN
Spindle Bearings	1SET	SWEDEN SKF
8.Spindle Bearings	1SET	SWEDEN SKF
Other Bearings	1SET	JAPAN NSK
9.Timing Belt	1SET	US GATES
10.Cable Laying Device	GP20(Special bi-direction)	SHANXI Tian Xiang
11.Manual hydraulic pump	10T	TAIWAN
12.Tension Module	10V	TAIWAN
13.Bow	1SET	Japan SK5
14. Body	1SET	Self-processing



15. Spindle	2pcs	Self-processing
16. Aluminum plate	2pcs	Self-processing
17. Timing Pulley	1SET	Wu Xi
18. Bearing Housings	1SET	Self-processing
19. Disc	2pcs	Self-processing
20. Transmission Shaft	1pcs	Subcontracting
21. Leading Wheel	1SET	Self-processing with hard chrome plating
22. Wire guide wheel	6pcs	Self-processing with hard chrome plating

➤ **Spare parts sheet**

No.	Description	Model	Qty	Remark
1	Spindle guide wheel	(with Bearings)	1SET	
2	Wiring pulley	(with Bearings)	1SET	
3	Loops in Bow	Bilateral porcelain ring	3pcs	
4	Split plate porcelain ring	Φ5.0	3pcs	
5	Stranded Die	Client provide		
6-9	Timing belt		1pcs	
10	Spool Top sleeve	According to reel drawings	1SET	
11	Tool	With hex wrench, open wrench and etc	1SET	
12	Operating instructions		1SET	
13	Electrical Schematic		1SET	
14	Inverter manual		1pcs	



序号 Serial No.	绞距轮底径 Bottom Dia of Pitch Wheel	A传动绞距 A Drive Pitch	B传动绞距 B Drive Pitch
1	∅32.9	6.3	18.5
2	∅38.4	7.4	21.5
3	∅43.9	8.4	24.6
4	∅49.4	9.5	27.7
5	∅54.9	10.5	30.7
6	∅60.3	11.6	33.8
7	∅65.8	12.6	36.8
8	∅71.3	13.7	39.9
9	∅76.8	14.8	43.0
10	∅82.3	15.8	46.0
11	∅87.8	16.9	49.1
12	∅93.3	17.9	52.3



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- 2.Automatic tension control: During stranding, the taking up tension should be increasing from empty to full,(Data set by touch screen) The machine can automatically monitor and adjust the tension smoothly, keep the tension uniform variation ,Can achieve tension setting while working .
- 3.Wiring system: Use the latest structure, the stranded conductor from the spindle wheel directly to the flyer bow, (with) a unique semi-circular groove design, along with a semicircle porcelain ring wiring,Avoid stranded wire scratches and strand jumps caused by wind resistance during high-speed rotation
- 4.Spindle lubrication: **automatic lubrication**,butter lubrication (Disadvantages of oil lubrication: the oil's temperature increases while high-speed operation , and the oil mist will concentrate into beads on the wall , falling to the reel and pollute the conductor, cause blister when conduct insulating)
- 5.Security protection: If the door contact or lifting limits is not in place, internal and external wire cutting off error display in the touch screen with automatic alarm or can't start.
- 6.Spindle and aluminum plate: after high-speed dynamic balance processing; noise less than 80 dB
- 7.Electrical control: user-friendly touch screen interface operation,control by the PLC programmer + inverter
- 8.Bow use Japan imported SK5 material, with heat treatment and hard chroming
- 9.Transmission system: drive with synchronous belts , laying accurate, no internal lubrication position, no waste products effect by refueling and machine cleaning
Pitch Change : easy to operate, just change the capstan wheel according to the pitch sheet
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- 5.Spool specifications: $\varphi 500 \text{ mm} \times 375\text{mm} \times \varphi 56\text{mm}$ (or customize)
- 6.Normal production speed: up to 2600RPM (5200TPM, According to different stranded wire specifications, the speed is different)
- 7.Traverse: $\varphi 20\text{mm}$ polish rod bearing type traverse , traverse width and row space can be accurately adjusted
- 8.Strand lay length: 6.3 ~ 52.3 mm
- 9.Main motor: 5.5KW AC motor + inverter



- 10.Assembly volume: about 200Kg
- 11.Stranding direction: free option to S / Z, pull the switch bar to change the direction,easy operation
- 12.Brake: With electromagnetic brakes, can achieve automatic braking when internal /external wire cutting off or reach meters
- 13.Tension control: magnetic clutch control thread tension, by the PLC program controller automatically monitor and adjust the tension, keep the tension constant
- 14.Machine drive bearings: spindle with Sweden SKF bearings , the others with Japan NSK bearings
- 15.Synchronous belt: import from US
- 16.Spool loading : Manual hydraulic lifting
- 17.Spindle lubrication: butter lubrication
- 18.Noise index: less than 82dB
- 19.Machine size (mm): 2680L × 1250W × 1500H
- 20.Weight: 2500 Kg
- 21.Coating: RAL5015 light blue (can be customization according to customer requirements)
- 22.Packing: waterproof simple packaging
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➤ **Mechanical Performance**

1.Body structure:

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- 3)Dynamic balance: Standard of G2.5

4.Aluminum plate:

- 1)Material: ZL104
- 2)Accuracy: All end faces are positioned relative to the locating holes
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5.Flyer Bow

- 1)Material: Japan imported SK5.
- 2)Shape: special appearance, reduce the wind resistance.
- 3)Weight tolerance : less than 0.03 grams per pair
- 6.Transmission part: with imported synchronous belt drive, laying length accurate

7.Wire entry wheel:

- 1)Material: # 45 steel finished with heat treatment HRC30-40.
- 2)Hard chrome plated on the surface, not easy to wear

8.Spindle housing:

- 1)Material: Alloy cast iron.
- 2)Processing: CNC machine tooling
- 3)Accuracy: one processing hole end molding, to ensure concentricity.

9.Spindle bearing lubrication system:

- 1)Lubrication method: butter lubrication
- 2)Butter Model: LGMT2 SKF grease
- 3)Sealing method: mechanical oil retaining ring, keep the machine clean inside

10.Take up:Tensile tension control: through the magnetic clutch control thread tension, by the PLC program controller automatically adjust the tension, keep tension constant

11.Traverse:Special bi-direction traverse, φ20mm polish rod bearing type, traverse width and row space can be accurately adjusted

12Spool Size:

Out Dia (φD)	Fix Hole (φd)	Outer Length (L1)	Inner Length (L2)	Fasten Hole	PCD
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11.Manual hydraulic pump	10T	TAIWAN
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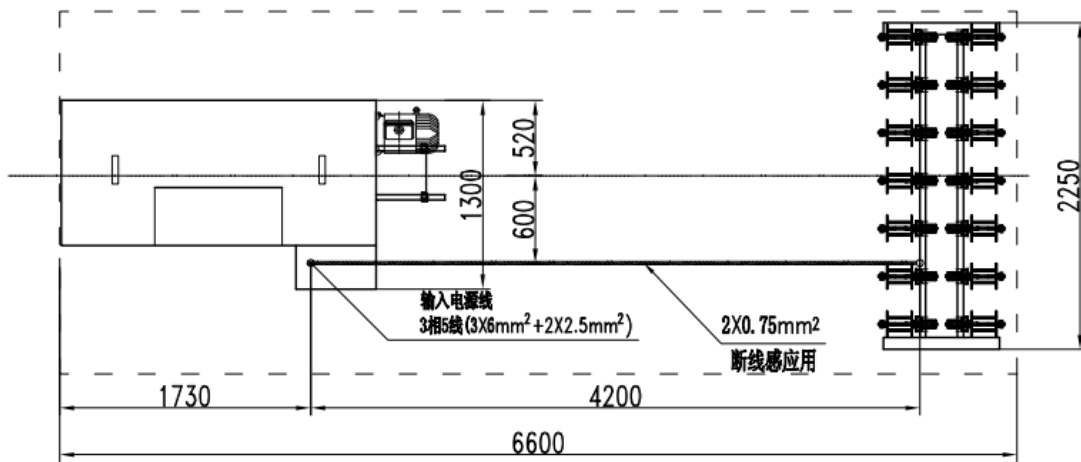
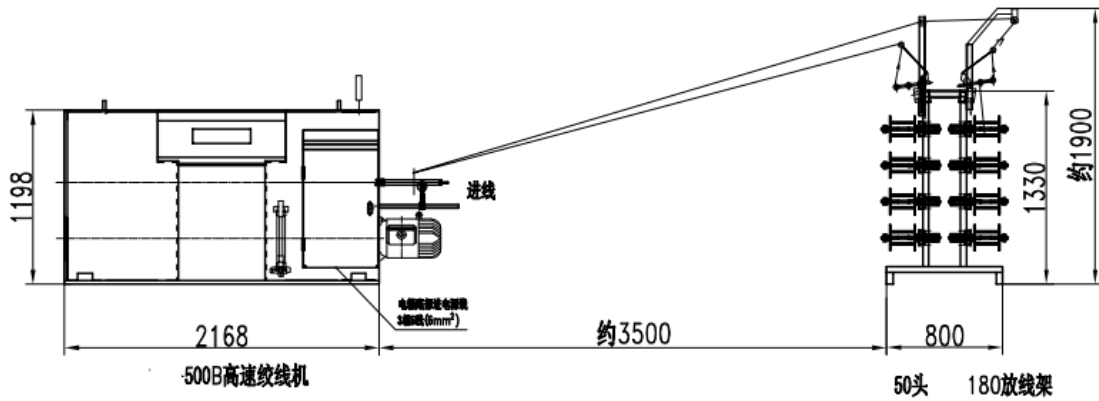
14. Body	1SET	Self-processing
15. Spindle	2pcs	Self-processing
16. Aluminum plate	2pcs	Self-processing
18. Timing Pulley	1SET	Wu Xi
18. Bearing Housings	1SET	Self-processing
19. Disc	2pcs	Self-processing
20. Transmission Shaft	1pcs	Subcontracting
21. Leading Wheel	1SET	Self-processing with hard chrome plating
22. Wire guide wheel	6pcs	Self-processing with hard chrome plating

➤ **180 passive pay-offs:**

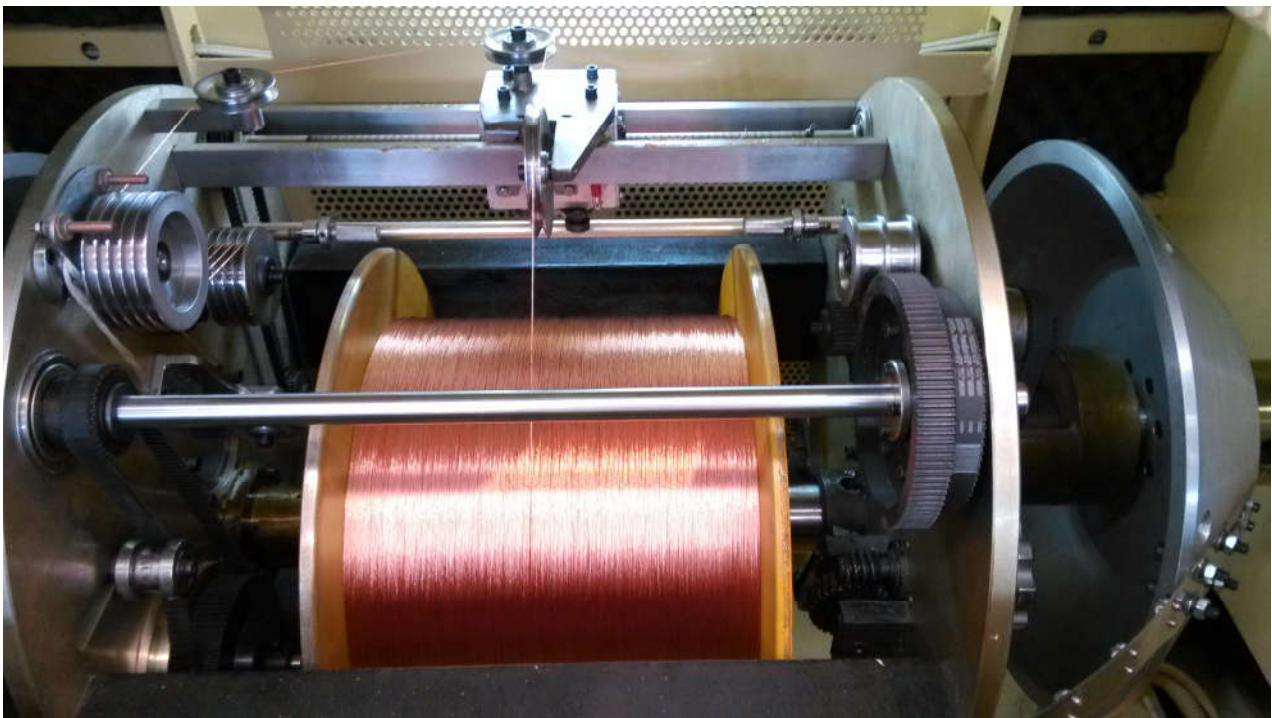
1. Spool size: PND Φ 125 ~ Φ 200 ABS spool
2. Wire diameter range: Φ 0.2 ~ Φ 0.52mm
3. No.s of heads: 20 Heads/set * 1set
4. Tension control: update spring tension control, constant tension, automatic brake with broken wire detection, automatic shutdown after linkage
5. Brake: Automatic braking when wire cutting off
6. Load: maximum 15Kg
7. Fast bevel nut

➤ **Spare parts sheet**

No.	Description	Model	Qty	Remark
1	Spindle guide wheel	(with Bearings)	1SET	
2	Wiring pulley	(with Bearings)	1SET	
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4	Stranded Die	Client provide		
5-8	Timing belt		1pcs	
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- 5.Security protection: If the door contact or lifting limits is not in place, internal and external wire cutting off error display in the touch screen with automatic alarm or can't start.
- 6.Spindle and aluminum plate: after high-speed dynamic balance processing; noise less than 80 dB
7. Integrated controller: touch screen human-machine interface humanized operation, including logic control + motor control.
8. Electronic adjustment of braking torque: electronic adjustment of internal brake and external brake braking torque, high precision and more reliable
- 9.Bow use Japan imported SK5 material, with heat treatment and hard chroming
- 10.Transmission system: drive with synchronous belts , laying accurate, no internal lubrication position, no waste products effect by refueling and machine cleaning
- 11.Pitch Change : easy to operate, just change the capstan wheel according to the pitch sheet
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15.Synchronous belt: import from US

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 - 1)Lubrication method: butter lubrication
 - 2)Butter Model: LGMT2 SKF grease
 - 3)Sealing method: mechanical oil retaining ring, keep the machine clean inside
- 10.Take-up tension is controlled by the magnetic powder clutch, and the tension is automatically tracked and adjusted by the integrated controller, and the tension is constant
- 11.Traverse:Special bi-direction traverse, φ20mm polish rod bearing type, traverse width and row space can be accurately adjusted
- 12.Pool Size:

Out Dia (φD)	Fix Hole (φd)	Outer Length (L1)	Inner Length (L2)	Fasten Hole	PCD
500	56	375	300	25	142

- 13.Dynamic power : 2.5KW
- 14.Installed power : 5.5KW

➤ **Detail Specification:**

Description	Model	Origin
1.Host Motor	5.5KW-4P 380V 50Hz	SIEMENS
2.Integrated controller	AST100-4T05AIS4001	
3.Electromagnetic Brake	24KG	TAIWAN
4. Hollow shaft magnetic powder clutch	1.2kgf	TAIWAN
Spindle Bearings	1SET	SWEDEN SKF
5.Spindle Bearings	1SET	SWEDEN SKF
Other Bearings	1SET	JAPAN NSK
6.Timing Belt	1SET	US GATES
7.Cable Laying Device	GP20(Special bi-direction)	SHANXI Tian Xiang
8.Electrical hydraulic pump	10T	TAIWAN
9.Bow	1SET	Japan SK5



10.Body	1SET	Self-processing
11.Spindle	2PCS	Self-processing
12.Aluminum plate	2PCS	Self-processing
13.Timing Pulley	1SET	Wu Xi
14.Bearing Housings	1SET	Self-processing
15.Disc	2PCS	Self-processing
16.Transmission Shaft	1PCS	Subcontracting
17.Leading Wheel	1SET	Self-processing with hard chrome plating
18.Wire guide wheel	6PCS	Self-processing with hard chrome plating

➤ **Spare parts sheet**

No.	Description	Model	Qty	Remark
1	Spindle guide wheel	(with Bearings)	1SET	
2	Wiring pulley	(with Bearings)	1SET	
3	Loops in Bow	Bilateral porcelain ring	3pcs	
4	Sub-plot porcelain ring	Φ5.0	3pcs	
5	Stranded Die	Client provide		
6-9	Timing belt		1pcs	
10	Spool Top sleeve	According to reel drawings	1SET	
11	Tool	With hex wrench, open wrench and etc	1SET	
12	Operating instructions		1SET	
13	Integrated controller manual		1pcs	

➤ **Dual 630 shaft-less multi-wire active pay-off** :

A constant tension control and no twisting double spool pay-off, can be used for single-wire or twisted wire pay-off, no interfere with each other, independent release, easy to operate, and saving space.

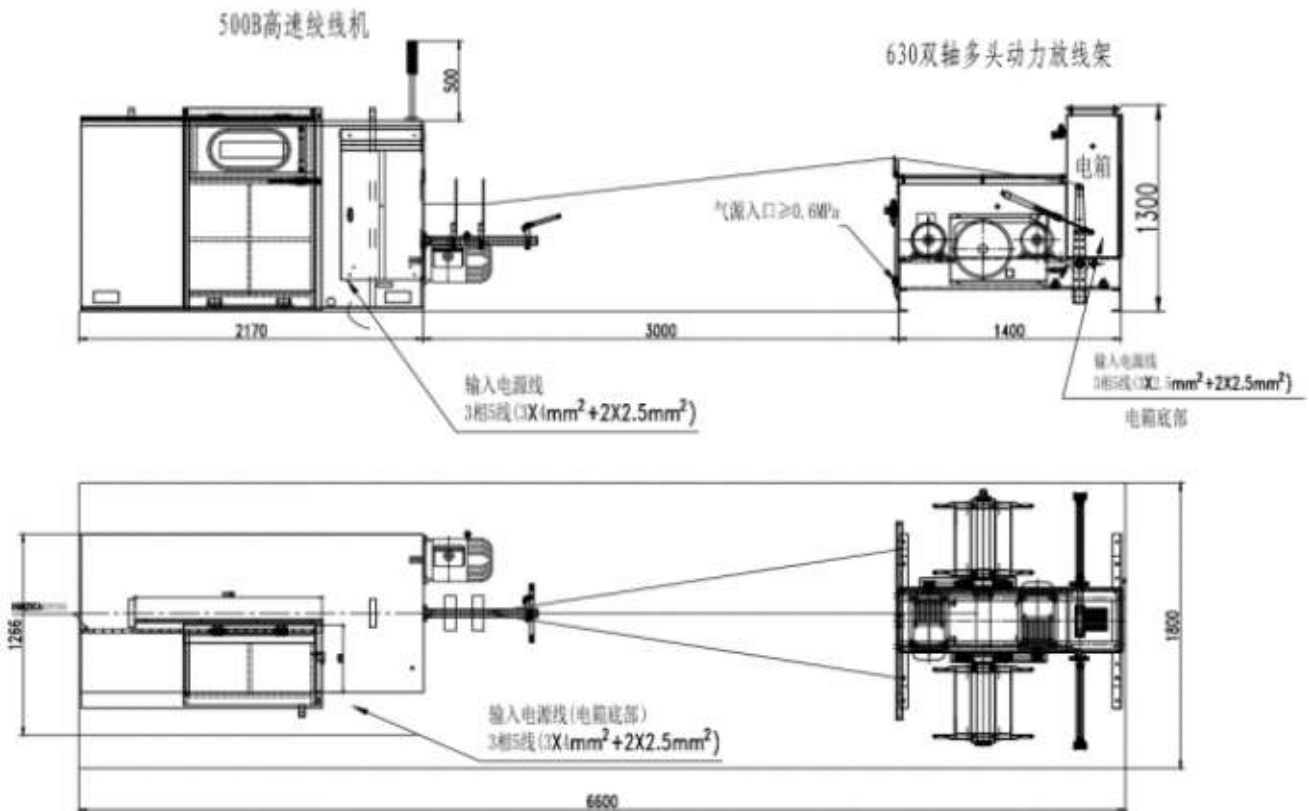
1. wire diameter range: $\varphi 0.15$ - $\varphi 0.64$ mm;
2. Speed: MAX 200m/min;
3. Spool Size: OD $\varphi 630$ * ID $\varphi 125$ (20mm deep taper hole)* Outer Width 475 * Inner width 400mm;
4. Tension control: In the pendulum mounted on the cylinder, through the regulator to adjust the pressure of the cylinder to change the pay-off tension, can also use the hammer to adjust the tension;
5. Drive: reel by the brake with 1.5KW three-phase Special motor + timing belt + inverter control;
6. Brake: the disc spring brake inside the motor control the motor stop;
7. Speed control: by the sensor to send pendulum signal to the inverter, control the pay-off



- speed and the host (such as stranding machine) to maintain synchronization;
- 8. Spool handling: With hydraulic forklift (customer-owned) manual loading and unloading reel;
- 9. Painting: RAL5015 sky blue (according to the customer to provide color plate)
- 10. Weight: 600kg

➤ **Main configuration**

No.	Description	Model	Brand	Remark
1	Inverter	1.5KW	YASKAWA	
2	Motor	1.5KW-6P Frequency	SFC	
3	Bearing		NSK	
4	Motion detector	SYL18	FOTEK	
5	Precision regulating valve	IR2020-02	SNS	
6	Stainless steel cylinder	MA25*300	SNS	





序号 Serial No.	绞距轮底径 Bottom Dia of Pitch Wheel	A传动绞距 A Drive Pitch	B传动绞距 B Drive Pitch
1	∅32.9	6.3	18.5
2	∅38.4	7.4	21.5
3	∅43.9	8.4	24.6
4	∅49.4	9.5	27.7
5	∅54.9	10.5	30.7
6	∅60.3	11.6	33.8
7	∅65.8	12.6	36.8
8	∅71.3	13.7	39.9
9	∅76.8	14.8	43.0
10	∅82.3	15.8	46.0
11	∅87.8	16.9	49.1
12	∅93.3	17.9	52.3

