



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

The quality of our **500C Double Twist Bunching Machine** is second to none. Can do conductor stranding from 0.05mm² to 1.5mm². products are widely used in IT

communications, aerospace, military, medical, locomotives, automobiles, robots, ships, 5G cloud databases and other fields.

500C 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. **500C 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): **500C 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.

3. **500C Double Twist Bunching Machine** is a new product developed by our company, with high speed, constant tension from empty to full reel, and excellent stranding quality. This machine can be equipped with a pressure sensor to monitor the tension of the take-up online, and feedback and correct the tension value at the same time;

4. Internal precision wiring of the stranding machine (optional): **500C Double Twist Bunching Machine** can use stepper motor + precision ball screw wiring, internal and external PLC data sharing through wireless communication module, collection of wiring data and take-up shaft speed, through PLC precise calculation, guarantee The wiring precision, and the wiring width and row spacing are set on the touch screen, no need to stop the adjustment, reduce downtime and improve production efficiency.

5. Intelligent constant tension control system (optional): through the high-precision tension closed-loop control system, **500C Double Twist Bunching Machine** tension of the internal take-up is constant from the empty reel to the full reel; solve the problem of the winding The diameter increases, the half-reel start is difficult, and the tension tracking is not timely, causing quality problems such as copper wire stretching; at the same time, the take-up tension is automatically adjusted according to the set tension value.

6. Automatic oil supply system: **500C Double Twist Bunching Machine** program is set to automatically refuel at a fixed time, which is not affected by the environment, and can be used for regular and quantitative oil, to prevent bearing damage caused by no timing refueling; to prevent lubricant deterioration, from the oil pump to the refueling point, the lubricant will not Contact with outside air to prevent deterioration of lubricant and mixing of debris.



This **500C 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:

500C Double Twist Bunching Machine for single wire 0.08-0.45mm stranding, cross section 0.05-1.5mm², pitch range 4.0-34.5mm (please refer to page 6-11)

500C Double Twist Bunching Machine for single wire 0.08-0.45mm stranding, cross section 0.05-1.5mm², pitch range 6.3-52.3mm (please refer to page 12-17)





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





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



Spool Lift: manual hydraulic pump / electrical hydraulic pump



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





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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





500C Double Twist Bunching Machine Specification

➤ **Merits:**

- 1.High speed and good stability (the motor through the rigid coupling directly connected with the drive shaft)
- 2.Automatic tension control: When stranding, the reel take-up from the empty to the full , the tension must be increased (With the touch screen Free Set the data) The machine can automatically adjust the tension smoothly, keep the tension uniform variation ,Can achieve tension setting while working .
- 3.Over-line system: The latest structure, the wire from the spindle directly across the guide wheel to the bow belt, the bow (with) a unique semi-circular groove design, with the bow with a semicircle porcelain ring line to avoid high-speed operation due to wind resistance Caused by stranding scratch, jump shares phenomenon
- 4.Spindle lubrication:Auto butter lubrication (Oil lubrication defects: 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 is not in place, lift contact is not in place, internal and external wire broken error display in the touch screen on the automatic alarm or can not start to work
- 6.Spindle and Rotation Arm finish: after high-speed dynamic balancer processing; noise less than 80 decibels
- 7.Electrical control: user-friendly touch screen interface operation, control by the PLC programmer + inverter
- 8.Bow use Japan imported SK5, finished with heat treatment, the surface of hard chrome
- 9.Transmission system: drive with synchronous belts , laying accurate, no internal lubrication position, no waste products effect by refueling and machine cleaning
- 10.Change the lay length: easy to operate, just change the leading wheel according to the lay length sheet
- 11.Compressor device: get higher round ratio
- 12.Meter counting way: with spindle meter counter

➤ **Main performance parameters**

1. Application: bare wire, tinned wire, copper clad aluminum, enameled wire, alloy wire and etc. 1 + 6 can replace twisting with stranding
2. Mono-filament diameter range: $\phi 0.08 \sim \phi 0.45\text{mm}$, 28-32 wires stranding
3. Twisted wire diameter range: $\phi 0.36 \sim \phi 1.56\text{mm}$
4. Stranded cross-sectional area: $0.05 \sim 1.5\text{mm}^2$
5. Spool specifications: $\phi 500 \text{ mm} \times (300-375) \text{ mm} \times \phi 56\text{mm}$ (or customize)
6. Normal working speed: up to 3000RPM(different specifications ,different speed)
7. Cable laying: $\phi 20\text{mm}$ light rod bearing type ,rolling lay length and distance can be accurately adjusted
8. Strand lay length: 4.0~ 34.5mm
9. Main motor: 5.5KW AC motor + inverter
10. Assembly volume: about 200Kg
11. Twisted direction: left and right direction can be arbitrarily selected, pull the switch bar to



change the direction,easy operation

12. Brake: With electromagnetic brakes, can achieve automatic braking when internal /external disconnection, and meet setting meters
13. Tension control: magnetic clutch control thread tension, by the PLC program controller automatically adjust the tension, keep the tension constant
14. Machine drive bearings: with Sweden Japan NSK bearings
15. Synchronous belt: import from US
16. Spool loading/unloading : Electric pump hydraulic lifting
17. Spindle lubrication: Sealed grease lubrication method (automatic lubrication)
18. Noise index: less than 79dB
19. Machine size (mm): 2680L × 1250W × 1500H
20. Weight: 2500 Kg
21. Coating: RAL5015 Sky blue (or customized)
22. Packing: waterproof simple packaging
23. Direction: from right to left , i.e, facing to the front door,pay-off on the right (or customized)
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.Rotation Arm:

- 1)Material: 45# iron Steel
- 2)Accuracy: All end faces are positioned relative to the locating holes
- 3)Dynamic balance: Accuracy of G2.5

5.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 (automatic lubrication)
 - 2) Butter Model: LGMT2
 - 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. Cable laying: Special two-way cable laying device, $\phi 20$ mm light rod bearing type , lay length and distance can be accurately adjusted
12. Spool Size:

Out Dia (ϕD)	Fix Hole (ϕd)	Outer Length (L1)	Inner Length (L2)	Position Hole	PCD
500	56	300-375	300	$\phi 25$	142

13. Dynamic power : 2.5KW
 14. Static power : 5.5KW

➤ **Detail Specifications:**

Description	Model	Origin
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. Magnetic Clutch	1.2KG	TAIWAN
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. Tension Controller	10V	TAIWAN
12. Bow	1SET	Japan
13. Body	1SET	Self-processing
14. Spindle	2pcs	Self-processing
15. Aluminum Plate	2pcs	Self-processing
16. Timing Pulley	1SET	SHANGHAI FENGKE
17. Bearing Housings	1SET	Self-processing
18. Disc	2pcs	Self-processing



19. Transmission Shaft	1pcs	Subcontracting
20. Leading Wheel	1SET	Self-processing with hard chrome plating
21. Wire guide wheel	6pcs	Self-processing with hard chrome plating

➤ **180 Passive Pay-offs:**

1. Spool size: PND125-185
2. Wire diameter: 0.08-0.45mm, 28-32 wire stranding
3. Head: 32Heads/Set
4. Tension: Spring tension device
5. Brake: belt friction auto stop when wire cut off
6. Capacity: 15KG per spindle
7. Oblique fast nut

➤ **Spare parts sheet**

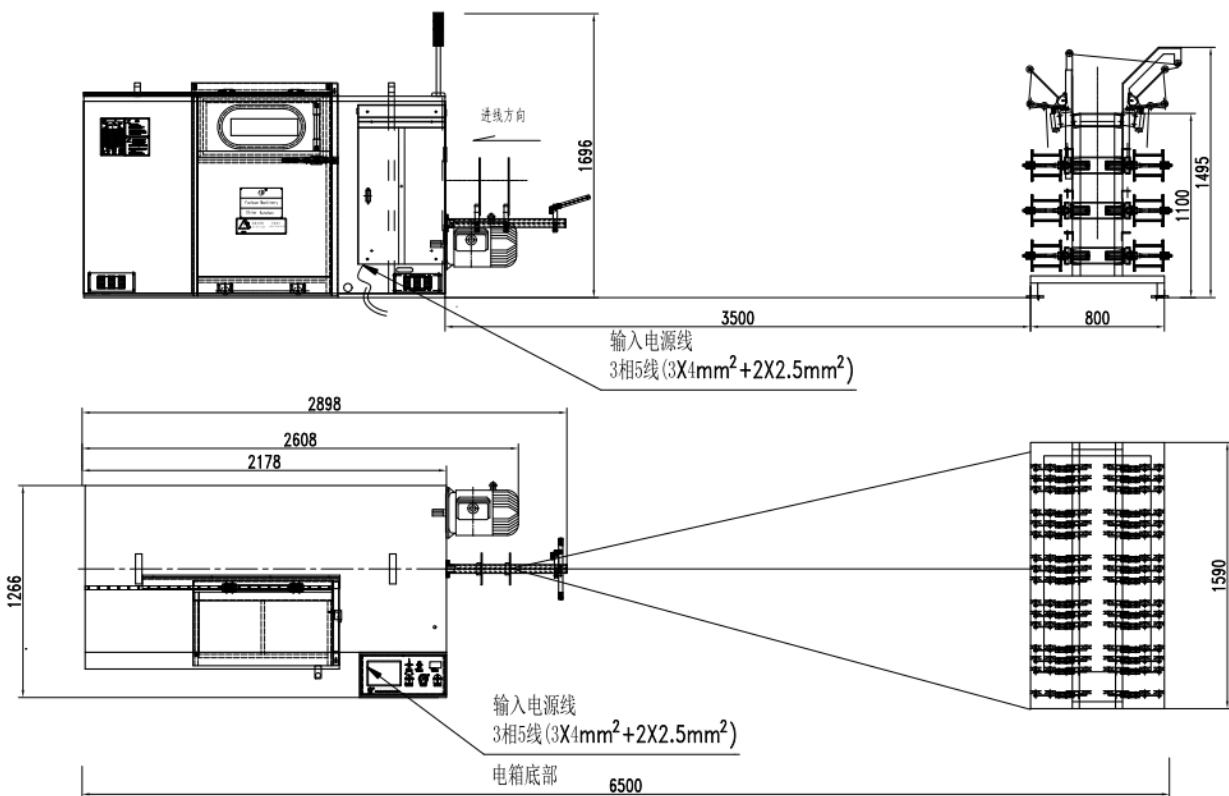
No.	Description	Model	Qty	Remark
1	Spindle guide wheel	(with Bearings)	1SET	
2	Wire guide wheel	(with Bearings)	1SET	
3	Loops in Bow	Bilateral porcelain ring	3pcs	
4	Split plate porcelain ring	Φ5.0	3pcs	
5	Stranded Die	Client provide		
6-9	Timing belt		1pcs	
10	Spool Top sleeve	According to reel drawings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

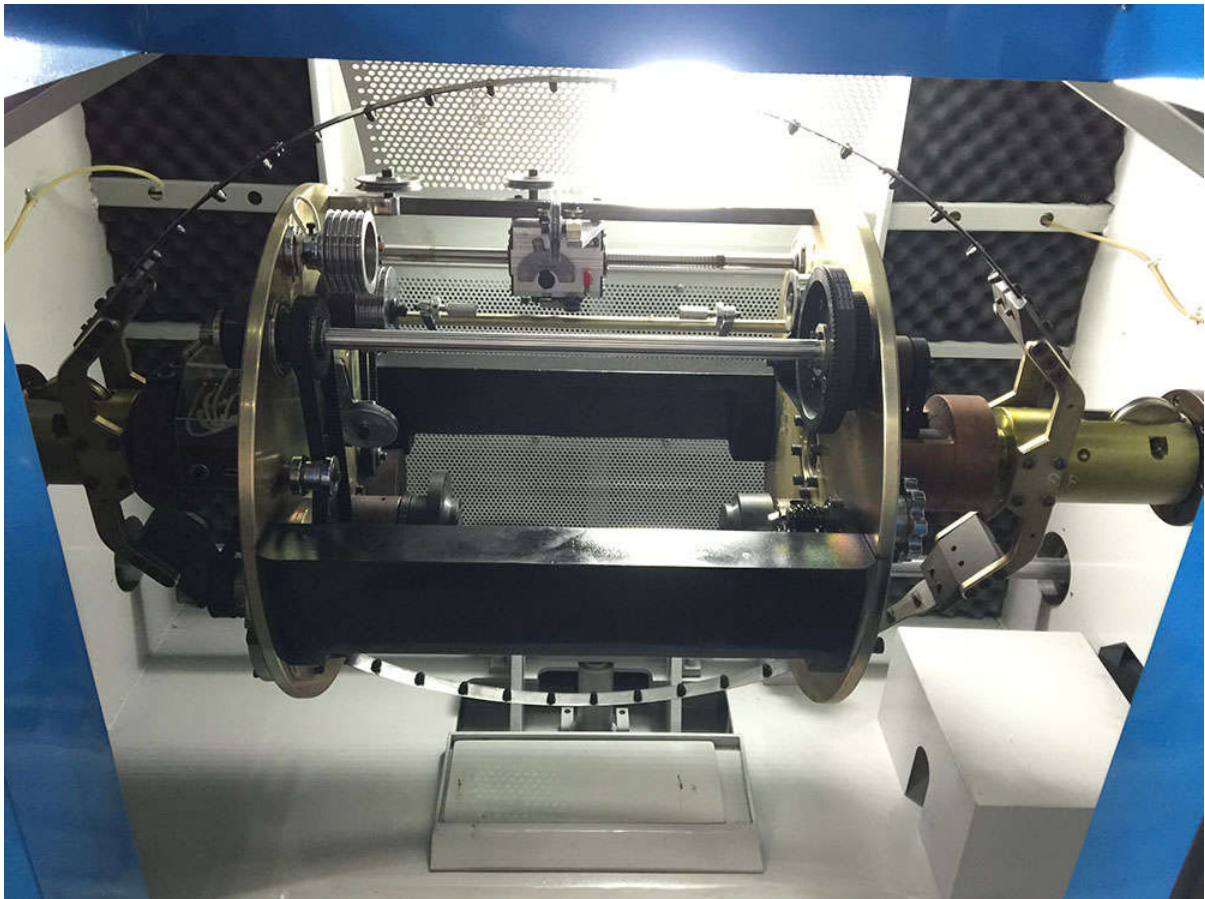


序号 Serial No.	绞距轮底径 Bottom Dia of Pitch Wheel	A传动绞距 A Drive Pitch	B传动绞距 B Drive Pitch
1	∅32.92	4.0	12.3
2	∅38.41	4.6	14.3
3	∅43.89	5.3	16.3
4	∅49.38	6.0	18.3
5	∅54.87	6.6	20.3
6	∅60.35	7.2	22.3
7	∅65.84	7.9	24.4
8	∅71.33	8.6	26.5
9	∅76.81	9.3	28.5
10	∅82.3	9.9	30.5
11	∅87.8	10.6	32.5
12	∅93.27	11.3	34.5

500C绞线机(左手机)

32头 180放线架(双面三层)
适合5寸、8寸ABS盘







500C Double Twist Bunching Machine Specification

➤ Merits:

- 1.High speed and good stability (the motor through the rigid coupling directly connected with the drive shaft)
- 2.Pressure sensor +Powder Clutch control tension: Based on the traditional stranding machine tension control model , through the high-precision tension closed-loop control system, the internal tension of the internal wire take-up is constant from the empty reel to the full reel; it solves the difficulty of starting half reel and the tension due to the larger winding warp of the previous stranding machine Tracking is not timely, causing quality problems such as copper wire stretching; at the same time, the output torque of the take-up clutch is automatically adjusted according to the set tension value to take up the wire. .
- 3.Over-line system: The latest structure, the wire from the spindle directly across the guide wheel to the bow belt, the bow (with) a unique semi-circular groove design, with the bow with a semicircle porcelain ring line to avoid high-speed operation due to wind resistance Caused by stranding scratch, jump shares phenomenon
- 4.Spindle lubrication:Sealed grease lubrication method (Oil lubrication defects: 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 is not in place, lift contact is not in place, internal and external wire broken error display in the touch screen on the automatic alarm or can not start to work
- 6.Spindle and Rotation Arm: after high-speed dynamic balance processing; noise less than 80 decibels
- 7.Electrical control: user-friendly touch screen interface operation, control by the PLC programmer + inverter
- 8.Bow use Japan imported SK5, finished with heat treatment, the surface of hard chrome
- 9.Transmission system: drive with synchronous belts , laying accurate, no internal lubrication position, no waste products effect by refueling and machine cleaning
- 10.Change the lay length: easy to operate, just change the leading wheel according to the lay length sheet
- 11.Compressor device: There are second compression devices in the machine to ensure the roundness of the conductors after stranding, guarantee the product characteristics of thin-walled insulated wires, and effectively reduce the loss of insulating materials.

➤ (Capstan wheel change pitch) Main performance parameters

- 1.Application: bare wire, tinned wire, copper clad aluminum, enameled wire, alloy wire and etc.
1 + 6 can replace twisting with stranding
- 2.Mono-filament diameter range: $\varphi 0.08 \sim \varphi 0.45\text{mm}$
- 3.Twisted wire diameter range: $\varphi 0.3 \sim \varphi 1.56\text{mm}$
- 4.Stranded cross-sectional area: $0.05 \sim 1.5\text{mm}^2$
- 5.Spool specifications: **$\varphi 500 \text{ mm} \times 375\text{mm} \times \varphi 56\text{mm}$ (or customized)**
- 6.Max speed : 3000RPM(Design speed);(different specifications , different speed)
- 7.Cable laying: $\varphi 20\text{mm}$ light rod bearing type ,rolling lay length and distance can be



accurately adjusted

8.Strand lay length: 6.3~ 52.3mm

9.Main motor: 5.5KW AC motor + inverter

10.Assembly volume: about 200Kg

11.Twisted direction: left and right direction can be arbitrarily selected, pull the switch bar to change the direction,easy operation

12.Brake: With electromagnetic brakes, can achieve automatic braking when internal /external disconnection, and meet setting meters

13.Tension control: magnetic clutch control thread tension, by the PLC program controller automatically adjust the tension, keep the tension constant

14.Machine drive bearings: with Sweden Japan NSK bearings

15.Synchronous belt: import from US

16.Pool loading/unloading : Electric pump hydraulic lifting

17.Spindle lubrication:Sealed grease lubrication method

18.Noise index: almost 82dB

19.Machine size (mm): 2680L × 1250W × 1500H

20.Weight: 2500 Kg

21.Coating: RAL5015 Sky blue (or customized)

22.Packing: waterproof simple packaging

23.Direction: From right to left, i.e, facing to the front door,pay-off on the right (or customized)

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.Rotation Arm:

1)Material: 45# iron Steel

2)Accuracy: All end faces are positioned relative to the locating holes



3)Dynamic balance: Accuracy of G2.5

5.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: Mobil Flux EP#1 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.Cable laying:Special two-way cable laying device, φ20mm light rod bearing type , lay length and distance can be accurately adjusted

12.Pool Size:

Out Dia (φD)	Fix Hole (φd)	Outer Length (L1)	Inner Length (L2)	Position Hole	PCD
500	56	375	300	Φ25	142

13.Dynamic power : 2.5KW

14.Installed power : 5.5KW

➤ **Detail Specifications:**

Description	Model	Origin
1.Host Motor	5.5KW-4P 380V 50Hz	SIEMENS
2.Inverter	5.5KW	INOVANCE
3.PLC Programmer	H1V-1614MR	INOVANCE
4.PLC Expander	H1V-4A-BD	INOVANCE
5.Touch Screen	MT6071IP	WEINVIEW
6.Electromagnetic Brake	24KG	TAIWAN
7.Magnetic Clutch	1.2KG	TAIWAN
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.Tension Controller	FC-5KG	TAIWAN
11.Tension Controller	Closed-loop control	TAIWAN
13.Bow	1SET	Japan



14. Body	1SET	Self-processing
15. Spindle	2pcs	Self-processing
16. Aluminum Plate	2pcs	Self-processing
17. Timing Pulley	1SET	SHANGHAI FENGKE
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	Wire guide wheel	(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	∅42.5	8.2	23.8
4	∅49.4	9.5	27.7
5	∅56.2	10.8	31.5
6	∅61.5	11.8	34.5
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

