



**Professional Grade 1+6(185F)+12(400B) Double Twist Bunching Machine with 2 Year Warranty!**

The quality of our **1+6(185F)+12(400B) Double Twist Bunching Machine** is second to none. **Can do conductor stranding from 0.38mm<sup>2</sup> to 1.5mm<sup>2</sup>**. products are widely used in IT communications, aerospace, military, medical, locomotives, automobiles, robots, ships, 5G cloud databases and other fields.

**1+6(185F)+12(400B) 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. **1+6(185F)+12(400B) Double Twist Bunching Machine** is Our latest design to completely replaces 200 tubular stranding machine, mainly for BVR and high-temperature conductor wires (such as: 19/0.08 ~ 0.25) Stratified Stranding (according to customer needs S+S or S+Z), since can do the 1+6 and (1+6)+12 at the same time, with large drum multi-wire pay-off, lower drum replacement frequency, reduced the cost, and improved the work efficiency. Capacity is 6 times of 200 tubular stranding machine, which saves 50% of electricity per hour. Meanwhile, it can be used for multiple purposes. The host of the high-speed stranding machine can be used for stranding multiple conductors separately, which is energy saving, small geographic location and low noise.

2. IoT(optional): **1+6(185F)+12(400B) Double Twist Bunching Machine** information of multiple devices can be integrated on multiple mobile phones or computers, and Monitor the machine status at real time, such as speed, stranding specifications, line speed, output, equipment maintenance, etc., and remote system do online Diagnosis, and maintenance, etc., to achieve refined management, reduce production and maintenance costs

3. Internal precision traverse(optional): **1+6(185F)+12(400B) Double Twist Bunching Machine** use stepper motor + precision ball screw traverse, 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 accuracy, and the wiring width and row spacing are set on the touch screen at real time, no need to stop adjustment, reduce downtime and improve production efficiency.



This **1+6(185F)+12(400B) Double Twist Bunching Machine** is CE approved



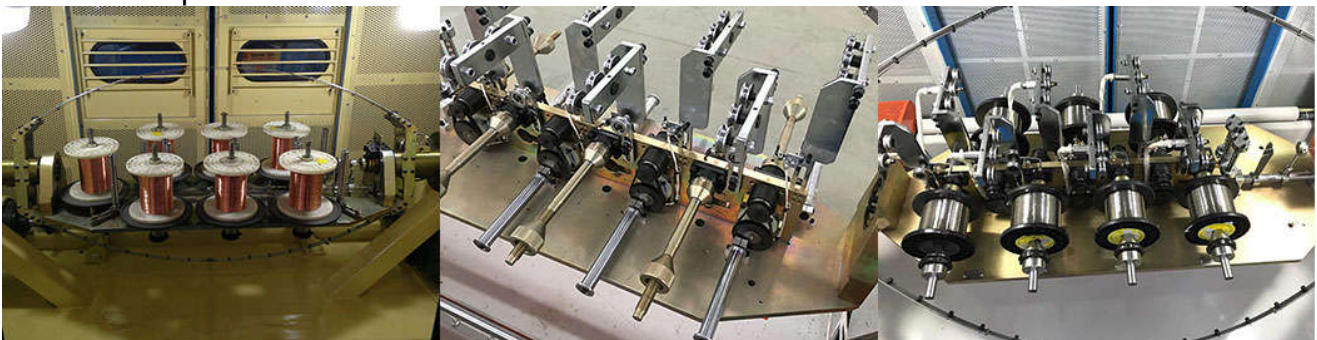
4. Can fit 380V to 440V, 50HZ to 60HZ, color can be customize  
3 phase 4 wires, R, S, T, PEN  
3 phase 5 wires, R, S, T, PE, N

5. Type:

**1+6(185F)+12(400B) Double Twist Bunching Machine** for 19 wire  
0.08-0.25mm stranding, cross section 0.38-1.5mm<sup>2</sup>, pitch range 3.1-33.3mm  
**3000RPM (please refer to page 5-15)**

6. Some Option:

**1+6 control type:** vertical friction / horizontal powder clutch / horizontal  
Closed-loop tension control





**Set-up:**

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

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



**Power Cabinet: Embedded type / plug in type / Stand alone type**





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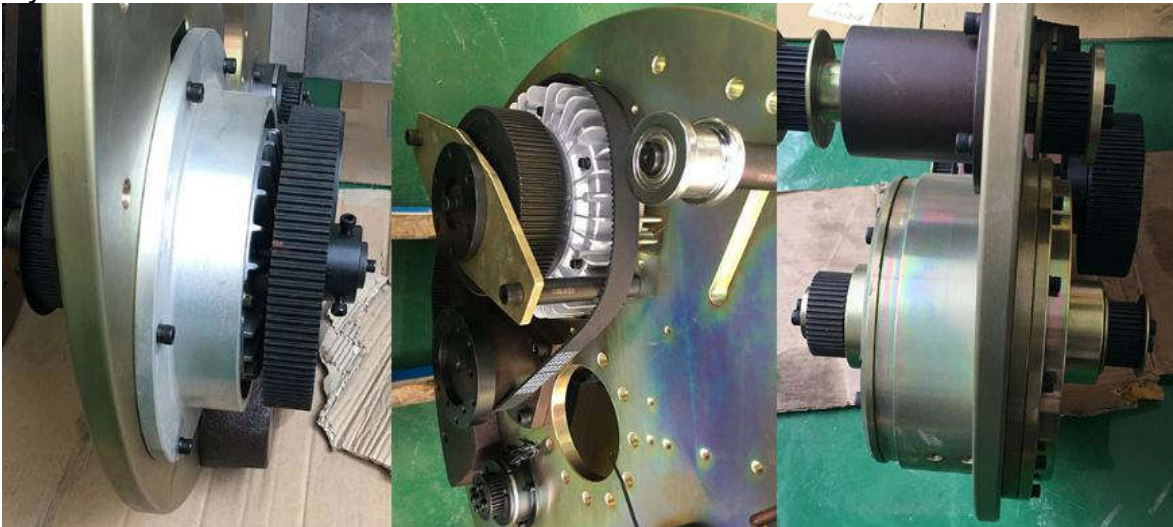
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Take-up tension type: Magnetic powder clutch / Hollow shaft clutch / Hysteresis clutch



IOT remote system and temperature sensor



状态	名称	数值	地址	数据类型	描述	操作
●	主机转速		VD 1060	计数	主机转速	刷新
●	当前米数		VD 330	计数	当前米数	刷新
●	当前张力		VW 5000	模拟量	当前张力	刷新
●	当前线速		VD 1190	计数	当前线速	刷新
□	节距设定		VD 170	计数	节距设定	刷新
□	设置米数		VD 740	计数	设置米数	刷新
●	设定张力		VW 360	模拟量	设定张力	刷新
□	排程设定		VW 1420	计数	排程设定	刷新
●	左轴1#温度		VD 3230	模拟量	左轴1#温度	刷新
●	左轴2#温度		VD 3250	模拟量	左轴2#温度	刷新
●	右轴3#温度		VD 3270	模拟量	右轴3#温度	刷新

Trade terms: T/T,L/C

Package:

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





## 1+6(185F)+12(400B)Double Twist Bunching Machine

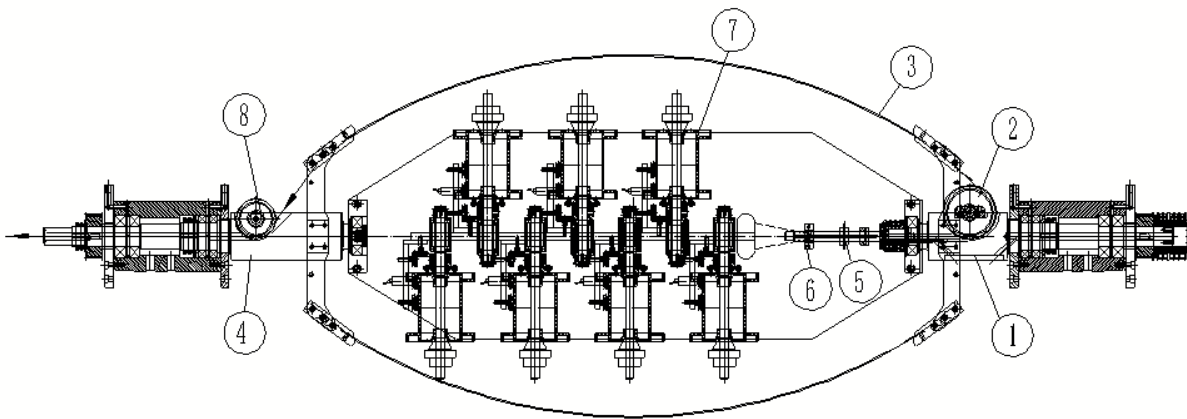
### ➤ Tips:

1. Apply for silver plated copper, tin plated copper, nickel plated copper and copper alloy 0.08mm -0.25mm with 19 wire stranding.
2. 19/0.08mm and 19/0.127mm with two pass stranding with the 400B host
3. 19/0.157mm to 19/0.25mm with 1+6(185F)+12(400B) one pass stranding
4. With metal connect related to CE standard
5. With remote system and can monitor the real-time status on PC and Mobile

### 185F type 1 + 6 new high-speed stranding machine

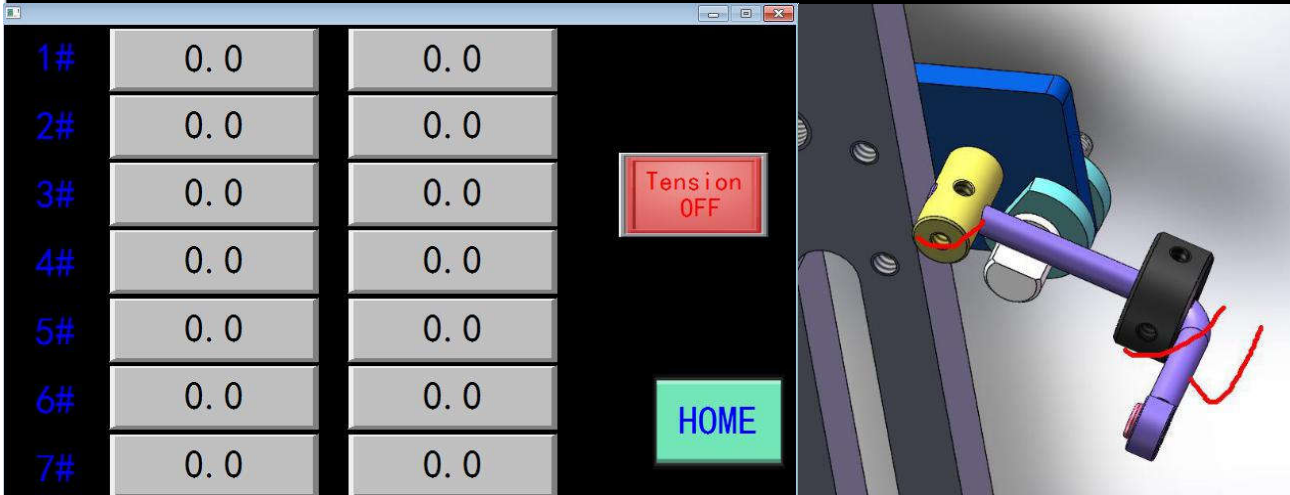
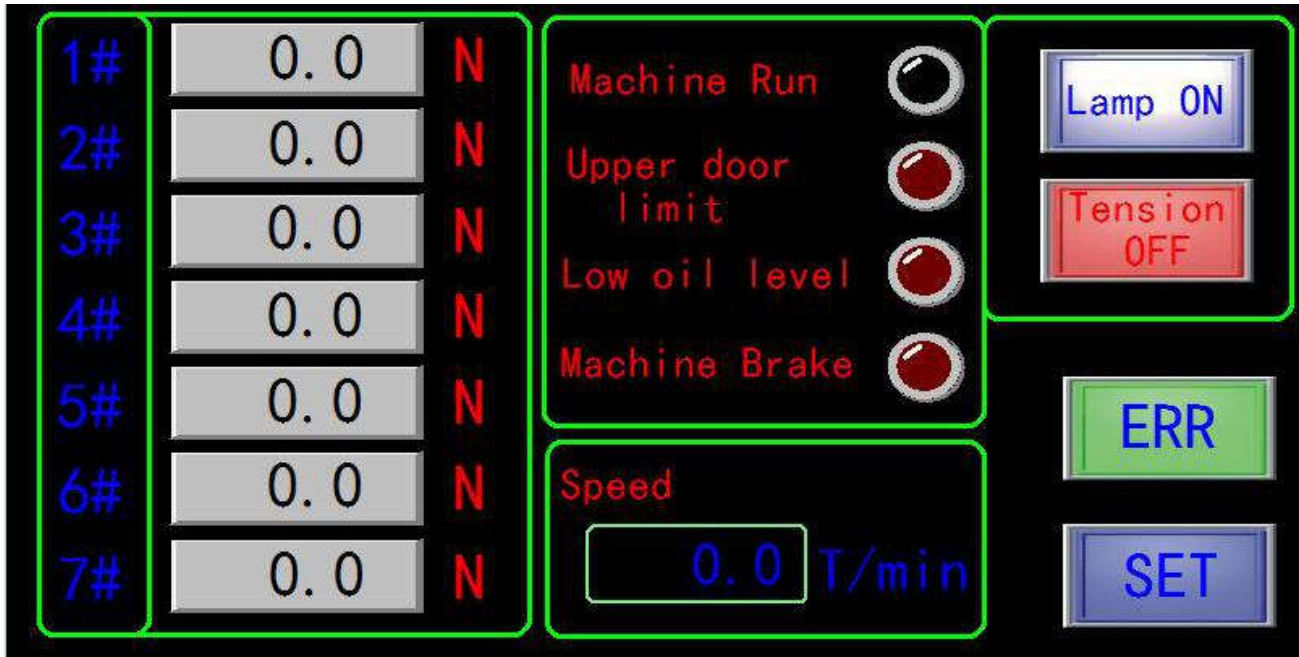
### ➤ advantages:

1. This machine is a new product developed by our latest, completely replace the 200 pipe cutter machine products, particularly in the production of 1 + 6 + 12 regular stranded product yield was 200 pipe cutter machine 4.5 times, while saving , small footprint, low noise.



1. Inlet Spindle 2. Inlet spindle guide 3. Flyer Bow 4. Output spindle
5. The eye mold 6. The honeycomb plate 7. The pay-off reels #1-#7
8. Output spindle guide
9. real-time tension control and monitor function and wire cut-off sensor
10. PLC set inner lay length and stranding direction S/Z





➤ **main performance parameters:**

1. Purpose: Apply for silver plated copper, tin plated copper, nickel plated copper and copper alloy 0.127mm -0.25mm.
2. The single thread conductor diameter range: Conductor  $\varphi 0.157 \sim \varphi 0.25$ mm
- 3.1 + 6 strand diameter range:  $\varphi 0.47 \sim \varphi 0.75$ mm
4. reel Specification: **DIN 125-180 Plastic spools as drawings**

5. twisted bow maximum speed: **2000RPM**

6. Tension control: controlled by constant tension control, tension control of magnetic powder + tension sensor + constant tension controller, Siemens on-line monitoring of tension under tension, feedback correction of tension value to ensure constant tension from empty plate to full plate.

7. 1 + 6 strands twisted away: and the host motored, infinitely variable speed to change the pitch of stranding

8. Main motor: Siemens AC motor 5.5KW

9. loading capacity: about **15 Kg** per disc

10. Brake: electromagnetic type, automatic braking when reach set meters



11. The whole machine bearings: bearings imported from Japan
12. Timing Belts: The United States imports of products
13. Bobbin loading: manual
14. Spindle Lubrication: grease lubrication, **auto lubrication**
15. Noise index: noise below **80 db**
16. Machine size (length × width × height): 2709 × 1155 × 1290
17. Weight: 1600 Kg
18. Packaging: **with pallet**
19. Direction: from right to left (or customize)
20. The door seal body: plastic sealing strip
21. The spindle bearing seal: mechanical slinger
22. The front and rear dual sliding doors
23. **Carbon Brush with cover**

➤ **The mechanical constitution Performance Analysis:**

1. Body structure:
  - (1) Material: low carbon steel welded together.
  - (2) Structure: annealed body, eliminate stress, and then by a boring machine precision molding process.
2. the line section:
  - (1) into line position: the right side of the face of the machine (according to customer demand change on the left).
  - (2) into the line: **After the spool and broken sensor pulley, through the sub-line distribution of holes in 1+6**, after the first press line mode, enter the spindle inside the right over the line guide pulley. **After the carbon bow with pulley** and then into the left guide wheel spindle over the line, and then after the turn of the rear corner guide stranding equipment, and complete a 1 + 6 + 12 strands of effect (see schematic diagram of threading)
3. Spindle:
  - (1) Material: 40Cr forging after quenching.
  - (2) Accuracy: The shaft and the outer core and the end face of the bearing retainer are milled to ensure concentricity and vertical degree and axis.
  - (3) Balancing: Balancing accuracy G2.5 level (weight difference 0.03 g)
4. Cantilever:
  - (1) Material: 45 # steel quenched and tempered
  - (2) Accuracy: All face cylindrical hole relative positioning beating 0.03
  - (3) Balance: accuracy G2.5 level (weight difference 0.03 g)
5. bow belt
  - (1) **Material: Carbon fiber**
  - (2) shape: special shape to reduce wind resistance.
  - (3) weight difference: Each weight difference is less than 0.03 g
6. Transmission parts: Machine with belt drive, twisted away from accurate, the belt of imported products
7. wheel over the line:
  - (1) Material: **Cr12Mov heat treatment HRC50-55.**
  - (2) The surface hard chromium plating easy to wear
8. Spindle bearing:
  - (1) Material: alloy cast iron.
  - (2) Processing: CNC machine tools
  - (3) Accuracy: hole end surface of a molding process, to ensure concentricity.



9. The spindle bearing lubrication system:

- (1) Lubrication: Grease Lubrication automatic refueling closed
- (2) Butter Model: **Mobil Herakles** butter
- (3) a sealing manner: mechanical slinger prevent oozing butter, keep the machine clean inside

10. spool size :( **DIN125-DIN180** )

11. Dynamic Power: 2.5KW

12. Installed power: 5.5KW

➤ **The main equipment configuration instructions:**

Name	Type	Origin
1.main motor	5.5KW-4P 380V 50Hz	Siemens
2.Inverter	5.5KW	Siemens
3.electromagnetic brake	24KG	TAIWAN
4.all bearings	1set	Japan NSK
4.Main shaft bearings	1set	SKF
5.pulley Belts	1set	US Gates
6. <b>Carbon bow</b>	1set	<b>Taiwan</b>
7. <b>Ceramics eyes</b>	1set	Processing by ourselves
8.Body Frame	1set	Processing by ourselves
9. Main shaft	2 set	Processing by ourselves
10. Boom	2set	Processing by ourselves
11. Pulley	1set	Processing by ourselves
12. Bearing station	1set	Processing by ourselves
13. Crade	1set	Processing by ourselves
14.transmission shaft	1set	Processing by ourselves
15. wheel	3set	Cr12Mov
16. HMI	1set	Siemens

➤ **185F constant tension control system components:**

Constant tension controller TC-608F \* 7pcs

tension sensor **SYS-1KG** \* 7pcs

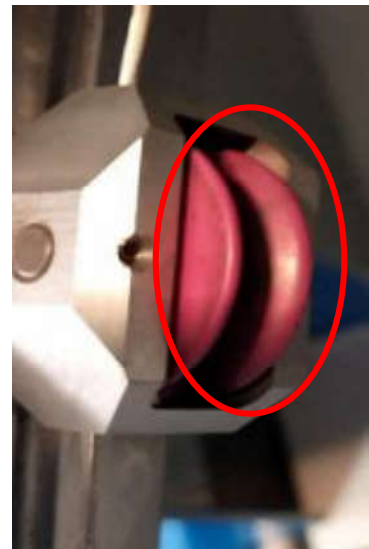
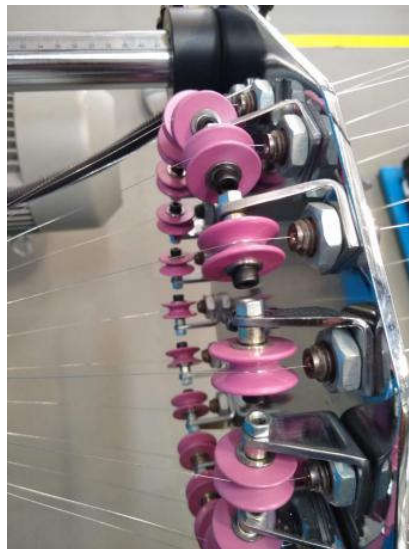
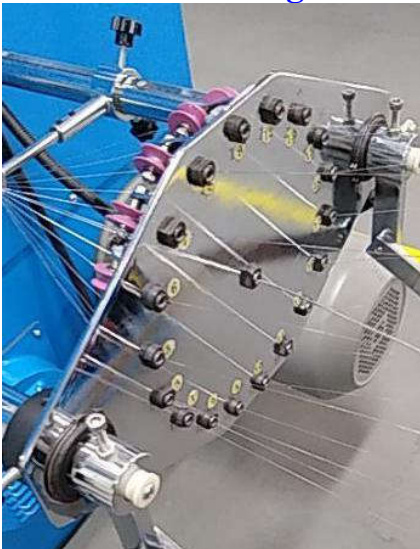
**0.1KGF** magnetic powder \* 7

RS485 wireless communication device \* 1pcs





### ❖ 400B bunching machine



#### The bow and eye with special pulley

##### ➤ The advantage of the equipment:

- High rotation speed and high stability (motor is connected with transmission shaft directly by butt-muff coupling).
- Adopt advanced wire guiding device, Traverse from spindle guide wheels, with **special bow guide wheel**, avoid as wire scratch, core mess etc.
- Safety Protection: Main axis bearing oil level is controlled by limited switcher. If it lower the setting oil level, auto-alarming or can't start on touch screen. All doors and lifting platform can not be opened when any of them is not in exact position. External break will auto-alarming or can't start on touch screen.
- Spindle and aluminum wheels had be treated by high-speed balancing devices, noise index is lower than **80dB**.
- Appliance control: Touch screen friendly surface personalize operate and controlled by Siemens PLC + Siemens inverter.
- Driven by synchronization strap ensure the exact lay, no any lubricating point in machine ensure cleanness inside machine result of refueling pollution, there are not defective wire and ripped wire in machine.



- g. Transform standard lay length: convenient to operate, only need to change one capstan wheel for reference standard lay length list.
- h. Meter counter device: adopt main shaft counter meter, is newly method in our country.

➤ **Main performance parameters**

- 1.Usage: silver plated copper, tin plated copper, nickel plated copper and copper alloy 0.08mm -0.25mm with 19 wire stranding
- 2.Diameter of single core:  $\phi 0.08 \sim \phi 0.25 \text{mm}$
- 3.Outer diameter of wire:  $\phi 0.24 \sim \phi 1.25 \text{mm}$
- 4.Crossection area:  $\phi 0.035 \sim \phi 1.0 \text{mm}^2$
- 5.Size of take up spool: **DIN400** (according to client's drawings to make).
- 6. Maximum rotating speed: **3000RPM(6000TPM)**, normal speed depend on the wire specification and lay length, the speed is different.
- 7.Type of traverse:  $\phi 20 \text{mm}$  rolling ring traverse, winding pitch and breadth are adjustable.
- 8. Lay length: **3.1~33.3mm** (Customized according to the customer's requirement).

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	$\phi 33.0$	3.1	11.2
2	$\phi 39.0$	3.7	13.2
3	$\phi 45.0$	4.2	15.2
4	$\phi 51.0$	4.8	17.2
5	$\phi 57.0$	5.3	19.2
6	$\phi 63.0$	5.9	21.2
7	$\phi 69.0$	6.5	23.3
8	$\phi 75.0$	7.1	25.3
9	$\phi 81.0$	7.6	27.3
10	$\phi 87.0$	8.2	29.3
11	$\phi 93.0$	8.7	31.3
12	$\phi 99.0$	9.3	33.3

- 9. Main motor: **3.7KW** Siemens AC motor +Siemens frequency converter
- 10. Weight of copper load: about **100kg**
- 11. Direction of strand: optional for right or left, only need to pull the reverse rod of the traverse by hands to adjust the lay-length, easy to operate.
- 12. Brake: electromagnetic brake for external break, automatic stop when wire reach setting meter.
- 13. Tension control:controlled by constant tension control, tension control of magnetic powder + tension sensor + constant tension controller, **Siemens** on-line monitoring of tension under tension, feedback correction of tension value to ensure constant tension from empty plate to full plate.
- 14. Drive bearing: **main shaft bearing with SKF, others bearings with Japan NSK**
- 15. Synchronization strap: it is adopted imported American product.



16. **Spool Lift: electric lift.**
17. Way of spindle lubrication: butter lubrication, automatic oiling.
18. Dimension: (length×breadth×height): **2600×1250×1450**
19. Weight: **2100Kg**
20. Coating: **RAL 5015 Blue sky** (may according to customer's requirements).
21. Package: **with pallet**
22. Direction: this machine is on your left, when you are in the face of front door, and pay-off on your right (may according to customer's requirements to make).
23. Sealing of machinery door: seal of plastic.
24. Spindle housings sealing: mechanical block oil ring
25. **Door: side open door**

## ➤ **Mechanical structure performance analysis:**

1. Mechanical body structure:
  - 1-1 Material: low carbon steel welding form
  - 1-2 Structure: the mechanical body is treated by annealing , eliminate stress, precision boring machine through a molding process.
2. Inlet part:
  - 2-1 Inlet location: in the face of machine, on your right (may according to customer's requirements and correct to "left").
  - 2-2 Way of inlet: from pay-off device pass by wire breakage induction district, first through total sub-panels (**pulley type 1+12**) through the first isobar die, and through the second isobar die, at last get into wire guiding round of the right spindle, **The SK5 bow with special pulley** , Through Al-arch belt guide wheel enter wire guiding round of the left spindle , through center corner round to capstan wheel, after passing by the third isobar die to arrange wire (Details for way of thread diagram).
3. Spindle
  - 3-1 Material: #45 steel slag after quenching and tempering.
  - 3-2 Accuracy: cylindrical core shaft and bearing positioning end are all lapped, ensure that the concentricity of axis core and the vertical degrees.
  - 3-3 Balancing: the accuracy of balancing is G2.5 grade (the variance of weight is 0.03 grams ).
4. Rotation Arm
  - 4-1 Balancing: the accuracy of balancing is G2.5 grade (the variance of weight is 0.03 grams).
5. Arch belt
  - 5-1 Material: imported Japan quality SK5 heat treatment.
  - 5-2 Shape: special appearance and reduce wind resistance.
  - 5-3 The variance of weight: each variance of weight < 0.03 grams.
6. Drive part: Drive by synchronization strap, standard lay length is exact, synchronization strap is adopted imported product.
7. Wire guiding wheel
  - 7-1 Material: **Cr12Mov heat treatment HRC50~55.**
  - 7-2 Plating hard chromium or spraying ceramic on surface, not been worn.
8. Spindle housings
  - 8-1 Material: ductile iron QT42-10.
  - 8-2 Processing: CNC machine tools



- 8-3 Accuracy: inner hole end, a molding process to ensure the concentricity.
9. Bearing spindle lubrication system:  
 9-1 Way of lubrication: butter lubrication  
 9-2 Model of oil: **Mobil Heracles** butter oil  
 9-3 Way of sealing: mechanical retaining oil ring and back oil hole to prevent oil leakage and maintain internal cleaning of machine.
10. Take-up Tension control: controlled by constant tension control, tension control of magnetic powder + tension sensor + constant tension controller, on-line monitoring of tension under tension, feedback correction of tension value to ensure constant tension from empty plate to full plate.
11. Traverse: Special made bidirectional **φ20mm** rolling ring traverse, winding pitch and breadth are adjustable.
12. Dimension of take-up spool DIN300-400
13. Dynamic power: **1.7KW**
14. Installed power **3.7KW**

➤ **Equipment configuration instructions**

Description	Model	Remark
1. Main motor	<b>3.7KW-4P 380V50Hz</b>	Siemens
2. Converter	3.7KW	Siemens
3. PLC programmable	<b>Smart SR40</b>	Siemens
4. PLC expander	1set	Siemens
5. Touch screen	1set	Siemens
6. Electromagnetic brake	6KG	Taiwan
7. Magnetic powder clutch	<b>0.6kg</b>	Taiwan
8. Other Bearing	1set	Japan NSK
8.1 Shsft bearing	1set	<b>SKF</b>
9. Synchronization strap	1set	America Gates
10. Traverse	<b>GP20 Bi-direction</b>	Mainland
11. Electric hydraulic pump		Taiwan
12. Constant Tension controller	1set	Taiwan
13. Bow	1pcs	SK5
14. Arch belt guide wheel	1set	Processing by ourselves
15. Cabinet	1set	Processing by ourselves
16. Spindle	2pcs	Processing by ourselves
17. Aluminum disk	2pcs	Processing by ourselves
18. Synchronization strap	1set	ShangHai Fu Long
19. Bearing housings	1set	Processing by ourselves
20. Cylindrical disk	2pcs	Processing by ourselves
21. Synchrouous bearings	1pcs	Outside Processing
22. Capstan wheel	1set	<b>Cr12Mov</b>
23. Wire guiding wheel	1set	<b>Cr12Mov</b>

➤ **Dispatch list**

No	Description	Model	Qty	Remark
1	Spindle wheel		1set	
2	Wire guiding wheel		1set	



3	Bow guide wheel	pulley	1set	
4	Twist module	Diamond	1pcs	
5-8	Synchronization strap		1set	
9	Top shaft sleeve	Refer to drawings	1set	
10	Oil lubrication	Butter	1bottle	1KG
11	Tools		1set	
12	manual		1set	
13	electrical diagram		1set	

❖ **12H 180 pay-off**

1. To the reel: DIN125-DIN180(as above plastic spool drawings)
2. To the wire diameter:  $\Phi 0.08 \sim \Phi 0.25\text{mm}$
3. Heads: 12 heads/set \*1 set
4. Motor: Induction motor5IK60A-CF
5. Wiring model: magnetic force coupling
6. Tension control: spring-type tension gun control, keep constant tension, with broken line detection of automatic braking, linked to the machine can achieve automatic shutdown
7. Brake: while wire broken ,the belt automatic brake
8. Loading Limits: max load 15Kg

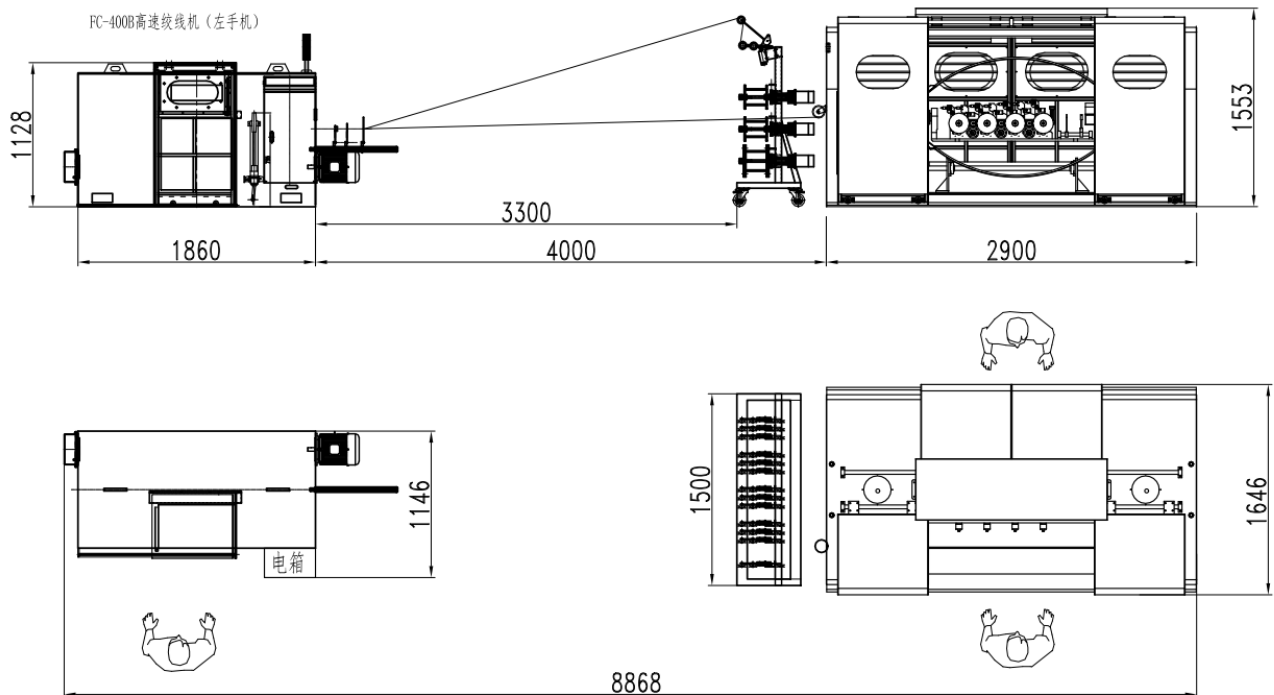
**with 1Head 300 pay-off:**

1. To the reel: DIN300
2. Wire range:  $\varphi 0.24\text{-}\varphi 0.3\text{mm}$  ( 7/0.08mm,7/0.10mm stranded conductor )
3. Heads: 1 heads/set \*1 set
4. Motor: Induction motor5IK90A-CF
5. Wiring model: magnetic force coupling
6. Tension control: spring-type tension gun control, keep constant tension, with broken line detection of automatic braking, linked to the machine can achieve automatic shutdown
7. Brake: while wire broken ,the belt automatic brake
8. Loading Limits: max load 30Kg



13头动力放线架  
 (其中一头装300ABS盘,  
 其余适用185ABS盘)

FC-185F(1+6绞线机)  
 (适用185ABS盘)





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