



## **Professional Grade 650C-2 Double Twist Bunching Machine with 2 Year Warranty!**

The quality of our **650C-2 Double Twist Bunching Machine** is second to none. Can do conductor stranding from 0.3mm<sup>2</sup> to 2.5mm<sup>2</sup>. products are widely used in **IT communications, aerospace, military, medical, locomotives, automobiles, robots, ships, 5G cloud databases and other fields.**

**650C-2 Double Twist Bunching Machin** 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. **650C-2 Double Twist Bunching Machin** 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): 650C-2 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. **650C-2 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): **650C-2 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, **650C-2 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: **650C-2 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.

7.Alignment photoelectric sensor (optional): When the arranging device fails, **650C-2 Double Twist Bunching Machine** will automatically stop and alarm.

8.Built-in camera (optional): for **650C-2 Double Twist Bunching Machine** you can see the internal cable take-up and cable layout on the touch screen or computer.



This **650C-2 Double Twist Bunching Machine** is CE approved



9.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

10.Type:

**650C-2 Double Twist Bunching Machine** for single wire 0.12-0.45mm stranding,cross section 0.3-2.5mm<sup>2</sup>,pitch range 11.6-100mm 2600RPM (please refer to page 6-13)





**CABLEMACH.COM**

Cable Machinery | Solutions !

[www.cablemach.com](http://www.cablemach.com)  
[sales@cablemach.com](mailto:sales@cablemach.com)  
Lance : +86 15216844360



### 11. 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 Lift



**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-proof package
- 2) Pallet package
- 3) Pallet with Vacuum package
- 4) Wooden box package





## **650C-2 Double Twist Bunching Machine Specification**

### ➤ **Merits:**

1. Internet of Things control: Multiple device information can be integrated on mobile phones or PC to check status, such as speed, stranding specification, speed, Capacity, equipment maintenance record, etc., can do online diagnosis and remote Maintenance, etc., to achieve refined management and reduce costs.
2. Intelligent fixed tension control system: Based on traditional tension control system, add high-precision closed-loop tension control, achieve the internal wiring tension constant from empty to full; get rid of the difficulty starting from half plate missing tension tracking, which may causing quality problems such as copper wire stretching; Meanwhile, can adjust tension value by PLC automatically change the clutch force during taking up.
3. German ZF Hysteresis Clutch: unique continuous transition to change the model from synchronous to sliding. Torque and linearity are constant, with other special advantages, non-contact torque transmission, continuous change via air gap of the clutch of the mechanical assembly, and then become constant to avoid any wear.
4. Automatic lubrication system: The program do regular lubrication automatically, not affected by environment, can do lubrication quantitatively as planned, avoid oil leakage and save time and effort; prevent lubricant degradation, from oil pump to refueling point, never contact any outside air, thereby preventing the lubricant from deteriorating and mixing with foreign matter.
5. Spindle temperature measuring device: When the spindle is abnormally heated or ventilation is poor, the spindle bearing temperature exceeds the set temperature, the device automatically stops and alarm.
6. Alignment photoelectric sensor (optional): When the arranging device fails, the equipment will automatically stop and alarm.
7. Built-in camera (optional): You can see the internal cable take-up and cable layout on the touch screen or computer.
8. Separated body with Rotation Parts: The Rotation Parts is separated from the cover, with less noisy, vibrating, and more environmentally friendly.
9. Wiring system: With latest structure, conductors directly from the Spindle pulley to Fly bow, bow with unique semi-circular groove + porcelain ring, avoiding wind resistance during high speed rotation, no scratch or jump while bunching.
10. Safety protection: Door limits, the lift table not in place, internal and external wire cut off and etc, shall automatically alarm on the HMI or can not be activated; With electric lifting device to load the spool, only the fly bow is horizontal, the lift can be activated to protect the bow.
11. Rotating arm: After improved, smaller rotating diameter, nicer appearance, less wind resistance and noise during rotation.
12. Increased the spindle pulley and wiring pulley diameter, enlarged the



conductors bending radius, more rounded after stranding.

13. Electrical control: HMI system, controlled by PLC+ inverter

14. Fly bow made of imported carbon fiber, hard to deform, less vibration, light weight, small centrifugal force, with wiring slot to reduce friction between wire and air, keep products quality more stable.

15. Transmission system: with timing belt transmission, accurate pitch, no lubrication point inside, more cleaner, and get rid of lubrication pollution comes with NG products.

16. Pitch Change: Replace one guide pulley refers to pitch changing instruction, easy to operate.

➤ **Main parameters:**

1. Uses: For bare conductors, tin plated copper, copper clad

aluminum, enameled wire, alloy wire and etc. 1+6 can instead of stranding

2. Inlet single diameter range:  $\varnothing 0.12 \sim \varnothing 0.45\text{mm}$

3. The outer diameter of the bundle wire:  $\varnothing 0.70 \sim \varnothing 2.05\text{mm}$

4. Stranded cross-sectional area:  $0.30 \sim 2.5\text{mm}^2$

5. Spool Size:  $\varnothing 630\text{mm} \times 475\text{mm} \times \varnothing 125\text{mm}$  (Or customize)

6. normal production below 2600RPM (5200 twist), difference diameter, different speed

7. Cabling:  $\varnothing 30\text{mm}$  bearing type polished rod cable with imported bearings, row width and spacing can be accurately adjusted;

8. pitch Range:  $11.6 \sim 67\text{mm}$

9. Main motor: 11KW AC motor + inverter

10. Loading capacity: about 400Kg

11. Twisting direction: Free to change S and Z, by manually move the reversing block position at the cable arranging device, easy to operate.

12. Brake: electromagnetic brake, internal and external wire cut off, or reach set meters can automatic braking

13. Tension control: Hysteresis clutch controls taking-up tension, PLC automatically track and adjust the tension, keep constant.

14. Bearings: spindle with Swedish SKF bearing, and others with Japan NSK.

15. Timing belt: United States

16. Spool Loading: Electric spool Lift

17. Spindle lubrication mode: automatic lubrication system (PLC automatic lubrication)

18. Noise Index:  $\leq 79\text{dB}$

19. Machine size (mm):  $3650\text{L} \times 2000\text{W} \times 2200\text{H}$

20. Weight: 5500Kg

21. Coating: RAL5015 sky blue (Or Customize)

22. Packing: simply waterproof package

23. Direction: Left hand machine, face to the door, pay-off on right, take-up on left (Or customize)

24. Body door seal: plastic strip seal

25. Spindle housing seal: mechanical oil retaining ring

➤ **Composition analysis:**

1. Body structure:

1)Material: welded with low carbon steel.

2)Structure: The body is annealed to eliminate internal stress and then formed by a precision boring machine.

3)The cover is separated from the Rotation parts.

2.Wiring part:

1)Wiring position: Face to the door,from right to left (Or customize from left to right).

2)Wiring mode: After wire breakage device from the pay-off units,pass the sub ploits (as 1+6+12+...),to the first stranding die, then second stranding die, enter the right spindle pulley to wiring pulley, passing the aluminum discs fly bow with the porcelain ring, come through the inner pulley of left spindle, then pass the center corner pulley,come to the wiring pulley, then go to the cabling guide wheel on the positioner to perform the position

3.Spindle:

1)Material: #40 steel is forged and tempered after being forged.

2)Accuracy: The outer core of the shaft core and the end surface of the bearing are ground to ensure the concentricity and verticality with the shaft center.

3)Dynamic balance: dynamic balance accuracy G2.5

4.Rotating arm:

1)Material: 45 steel

2)Accuracy: all end face outer circle relative positioning hole beats 0.03

3)Dynamic balance: accuracy G2.5

5.Flyer Bow

1)Material: Imported carbon fiber

2) Shape: special shape, reduce wind resistance.

3) Weight difference: less than 0.03 grams per pair of weight difference

6.Transmission part: the whole machine adopts synchronous belt transmission, the winding distance is accurate, and the timing belt adopts imported products.

7. Crossing wheel:

1) Material: #45 steel heat treatment HRC30-40.

2) The surface is hard chrome plated and not easy to wear

8. Spindle bearing housing:

1) Material: alloy cast iron.

2) Processing: precision CNC machine tools

3) Accuracy: The end face of the inner hole is formed at one time to ensure the concentricity.

9.Spindle bearing lubrication system:

1) Lubrication method: butter lubrication (automatic oil supply system)

2) Butter Model: Mobil Lux EP1#

3) Sealing method: Mechanical oil retaining ring to keep the inside of the



machine clean

10. Wire tension control: The tension of the wire is controlled by the hysteresis clutch, and the tension is automatically tracked by the PLC program controller. The tension is constant.

11. Cable: special bidirectional cable arranging device,  $\phi 30$ mm polished rod bearing type cable, row spacing, row spacing can be accurately adjusted

12. Spool size:

Out Dia ( $\phi D$ )	Fix Hole ( $\phi d$ )	Outer Length (L1)	Inner Length (L2)	Position Hole	PCD
630	$\phi 125$	475	400	$\phi 28$	260

13. Dynamic power : 5KW

14. Installed power : 11KW

➤ **Detail Specifications:**

Description	Model	Origin
1.Host Motor	11KW-4P 380V 50Hz	SIEMENS
2.Inverter	11KW	INOVANCE
3.PLC Programmer	1 set	INOVANCE
4.PLC Expander	1 set	INOVANCE
5.Touch Screen	EMT3070B	WEINVIEW
6.Electromagnetic Brake	24KG	TAI WAN
7.Hysteresis clutch	EKU-10	German ZF
8.Spindle Bearings	1SET	SWEDEN SKF
9.Other Bearings	1SET	JAPAN NSK
10.Timing Belt	1SET	US GATES
11.Cable Laying Device	GP30(Special bi-direction)	SHANXI TIAN XIANG
12.Lift motor	1.5KW	
13.Intelligent tension controller	608F	TAI WAN
14.tension sensor	10KG	TAI WAN
15.Wireless communicator	CH02-485-2K	TAI WAN
16.Camera (optional)	HD WEBCAM C310	LOGITECH
17.Carbon Fiber Bow	1SET	TAI WAN
18.Half porcelain ring in bow	1SET	TAI WAN
19. Body	1SET	Self-processing
20. Spindle	2pcs	Self-processing
21.Rotation Arm	2pcs	Self-processing
22. Timing Pulley	1SET	SHANG HAI FULONG
23. Bearing Housings	1SET	Self-processing
24. Disc	2pcs	Self-processing
25. Transmission Shaft	1pcs	Subcontracting



26. Leading Wheel	1SET	Self-processing with hard chrome plating
27. 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		3pcs	
4	Split plate porcelain ring	Φ6.8	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	

❖ **Dual 630 Double shaft multi-wires active pay-off**

It is constant tension control, Non-twist wires pay-off unit, apply for single conduct and multiple drawing wires pay-off, each reel separated control by inverter, no interface, easy operate and save space.

1. Single Wire range: 0.15-0.64mm

2. Speed: Max 200m/min

3. Reel Size: 630\*125\*475

4. Tension control:

① with pneumatic cylinder on the rocker, can change pressure value;

② Use Counterweight Regulate to change the wire tension

5. Driver: 1.5KW Special 3phases motor with brake through belt to control the spool action; drive by inverter

6. Brake: Use disc spring inner brake to stop the motor rocker, can adjust the pressure value to change the wire tension

7. Speed control: sensor feedback the signal to the inverter to control the speed of pay-off and the host

8. Reel load: Use Manual Hydraulic lift (Client provide)

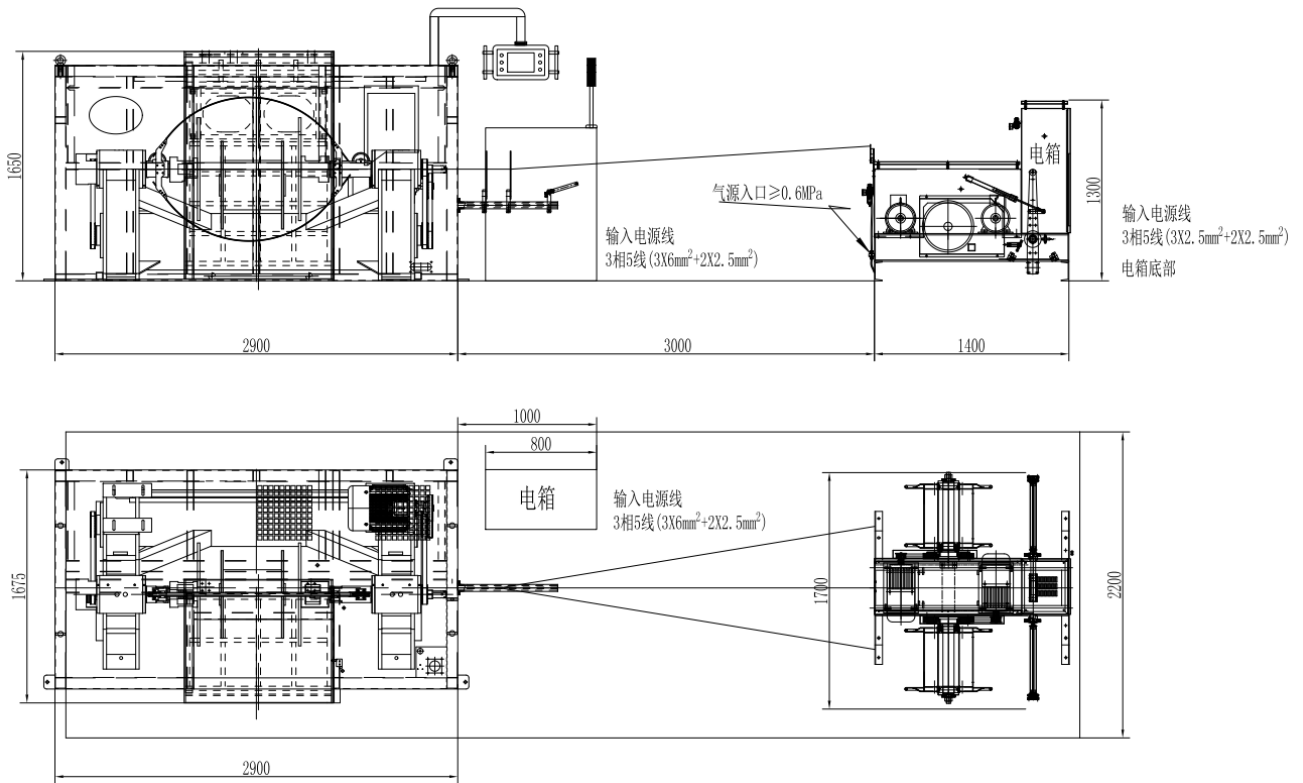
9. Coating: RAL 5015 Sky Blue

10. Weight: 600KG

**11.Parameter:**

Description	Model	Brand	Remark
1.Inverter	1.5KW	YASKAWA	
2.Motor	1.5KW-6P Special inverter motor	SFC/DANMA	
3.Bearings	1SET	NSK	
4.Senor	SYL18	FOTEK	
5.Precision pressure 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	φ54.8	11.6	23.5
2	φ60.3	12.8	25.8
3	φ65.8	13.9	28.0
4	φ71.3	15.1	30.5
5	φ76.8	16.3	32.5
6	φ82.3	17.4	35.0
7	φ85.6	18.1	36.6
8	φ87.8	18.6	37.6
9	φ93.3	19.8	40.0
10	φ98.8	20.9	42.0
11	φ102.2	21.6	43.5
12	φ109.7	23.2	46.8
13	φ115.2	24.4	49.5
14	φ120.7	25.6	51.5
15	φ126.2	26.7	54.0
16	φ141.8	30.0	60.5
17	φ157.0	33.2	67.0





**CABLEMACH.COM**

Cable Machinery | Solutions !

[www.cablemach.com](http://www.cablemach.com)  
[sales@cablemach.com](mailto:sales@cablemach.com)  
Lance : +86 15216844360

