

—、 ADVANTAGE



- 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: butter lubrication (PLC auto Oil lubrication: Avoid artificial factors without regular refueling caused spindle bearings lack of oil, bearing damage).
- 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 cannot start to work.
6. Rotation Arm: after high-speed dynamic balancer processing; noise less than 82 decibels.
7. Spindle pulley and wire guide pulley are enlarged, the conductor bending radius is increased, and the twisted conductor is more rounded.
8. Electrical control: user-friendly touch screen interface operation, control by the PLC programmer + inverter.
9. Bow with carbon fiber, strong hardness, not easy to deform, small vibration, light weight, small centrifugal force, wire slot, reduce wire and air friction, so that the quality is more stable.
10. Transmission system: drive with synchronous belts, laying accurate, no internal lubrication position, no waste products effect by refueling and machine cleaning.

二、HOW TO CHOOSE MODEL

Model		HSST-630	HSST-800
Bobbin Ø [mm]		500-630	630-800
Bobbin load[kg]		500	800
Wire Ø[mm]			
	Cu/Al	0.6-4.0	1.2-5.0
	PVC	2.5-5.0	3.5-7.0
Max. Speed [m/min]	Draw	1800	1200
	Hi-Ex	1000	1800
	Lo-Ex	450	450
Motor power [kW]		22/11/7.5	30/15/11

三、QUOTATION

CUSTOMER CODE:			QUOTATION NO:		
CUSTOMER INFORMATION:			DATE:		
TEL:			MANUFACTURE:		
FAX:			PAYMENT TERMS:		
ATTN:			BENEFICIARY: SHANGHAI SHINEWORLD ENGINEERING CO., LTD.		
			ACCOUNT NO.: 450773903470 (USD)		
			BANK NAME: BANK OF CHINA, SHANGHAI DALIAN ROAD SUB-BRANCH		
			BANK ADDRESS:NO. 688, DALIAN ROAD, YANGPU DISTRICT, SHANGHAI, CHINA		
			BANK TEL.: 86-21-33772960		
			FAX: 86-21-33772962		
			SWIFT CODE: BKCHCNBJ300		
SN	DESCRIPTION	PICTURE	QTY	FOB SHANGHAI UNIT PRICE/USD	FOB SHANGHAI AMOUNT/USD
1	SWM-BM630 Bunching stranding machine		1.00SET	20000.00	20000.00

2	CDMP630 Double pay-off		2.00SET	6200	6200.00
TOTAL:					26200.00

REMARK:

1, The detailed specification will be integral part of this quotation.

2, Price basis: Price are for delivery FOB

shanghai, China according to INCOTERMS 2010. And the exchange rate for USD: RMB is 1:6.60. If the exchange rate is changed over 0.5%, the quotation will be adjusted accordingly even in the validity time.

3, Validity of quotation: the quotation is validly within 30 days after issue date.

4, Delivery period: the delivery time is 30 days after receipt of your down payment and clarification of all technical and commercial details. The agreed delivery period is subject to the punctual receipt by us of all equipment, documents approvals release and services to be furnished by buyer for the performance of the order.

5, The quotation is based china standard material and package.

6, The buyer should provide:

The water pipe, compressed air pipe used in site. And response to connect with the machine corresponding connectors.

All the Wire and cable between transformers to the electrical cabinets.

Installation.

7, The following are not included in the scope of our supply:

The preparation of the site with all the necessary foundation work and ceiling openings etc.

The connection cables from the mains to the switch unit and from this to the various motors and auxiliary units of our equipment.

The electrical installation including the required safety devices outside the machine and switch unit.

The connection pipes, gravity feed hoppers etc., between the various units supplied by us.

Any required frames, platforms, suspension devices, etc., the operation media such as oil, grease etc., as well as raw material for the stating up and operation.

8, The parties agree that any claim to compensation for loss of profit as well as for indirect damage and consequential damage, on the basis of whatever legal ground, are excluded. This shall not apply if legal.

9, All equipment and technical service technical training are expressly stated in our quotation.

10, All supervision of installation & commissioning charge (include visa cost, insurance, round tickets, subsidy worked in the buyer's factory; around 2-3 engineers include 1 project manager, worked around 1 months). But the buyer bears expenses of accommodation, local transportation, food, sim card & Wi-Fi for the seller's engineers for installation commissioning & technical training. Because of COVID-19, these cost will be charged separately.

11, all the bank charge is paid by buyer .

12, all the options device is not included in the above offer.

四、SPECIFICATION

SWM-BM630/2*CDMP630 buncher machine with 630mm Twin head pay off

Solution for class 5 flexible conductor stranding-1-6mm²

With 1 set 630 main double twisting machines

With 2 sets-double 630/800 motor driving pay-off

4.1. Application

It is applied to the stranding of bare twisted wire, tinned, copper covered aluminum, lacquer wire and alloy wire.

4.2. Main Technical Parameter





SN	Size	Structure	Pitch	Speed-rpm	m/min
1	1.00mm²	32/0.2	25.6	1800	92
2	1.50mm²	30/0.25	34.6	1600	110
3	2.50 mm²	50/0.25	38.1	1500	114
4	4.00mm²	56/0.3	51.9	1300	134
5	6.00mm²	84/0.3	58.8	1200	141

4.3. General standard

SN	Electrical Specs.	
1	Motors	Siemens CHINA
	AC Drives	Siemens
	Low Voltage components	Siemens or Schneider
	PLC	S7-200 smart
	HMI	Siemens
	Communication	RS485/Ethernet
	Power Supply	400V ±10 % (4 Wire) – 50 HZ ± 20 %
	Aux. Control Voltage	24 V DC
	Operating Power Factor	Not < 0.9
	Electric cabinet	With cabinet AC
	Power monitoring meter	No need for small machine

2	Bearing	Main shaft: SKF The others: NSK
3	Environment conditions	
3.1	Ambient Temp.	+5 : 45 m
3.2	Altitude Above sea level	> 1000 m
3.3	Relative Humidity	50 % at 40 °C 90 % at 20 °C
4	Colors	
4.1	Machine Frame	Blue RAL 5012
4.2	Rotating Parts	Orange RAL 2004
4.3	Electrical Cabinet	Grey RAL 7035
4.4	Safety guards	Yellow RAL 1007
4.5	Greasing Points	Red RAL 3020

4.4. Main parameter

SN	Item	Parameter
4.4.1	Single conductor wire diameter	0.12-1.04mm (Copper and Aluminum wire)
4.4.2	Finished products size	0.75-6mm ²
4.4.3	Twisting pitch	10.0~120mm(34 section 11.6~100mm)
4.4.4	Max Speed of frame bow	2000rpm(4000twists/min)
4.4.5	Direction of twist	S, Z.
4.4.6	Main motor	7.5KW
4.4.7	Take-up bobbin	PND630
4.4.8	Power supply	380V ±10% , 50HZ
4.4.9	Machine color	
4.4.10	Main Machine	 RAL 5015 Himmelblau
4.4.11	Safety protection cover	 RAL 2009 Verkehrsorange
4.4.12	Moving and rotating parts	 RAL 1026 Leuchtgelb
4.4.13	Electrical cabinets	 RAL 7035 Lichtgrau
4.4.14	Operation direction	From left to right , or from right to left

4.5. Main components

4.5.1	Double motorised pay-off	630mm	3sets/6bobbin
4.5.2	Close die stand		1 set
4.5.3	630 main stranding machine		1 set
4.5.4	Loading /unloading system		1 set
4.5.5	Electrical control system		1 set
4.5.6	Safety fence		1 set

4.6. Technical Specification for main components

4.6.1.630 main stranding machine

Products Model	630						
Fit materials	Bare copper wire, Tinning line, Silvering line.						
Wire Diameter	Irregular Bunching Wire dia.			Min. 0.12-Max1.04mm			
Product range	Half-regular Bunching(1+6) Sectional area			Min.0.75-Max6 mm ²			
Pitches	E-adjusted :			11.6~100mm			
Max. Line speed	Max 250m/min (Line speed according to the lay length)						
The largest production speed	2000 rpm 4000-twist/min Normal working speed: up to 1800RPM(3600TPM) Production speed is the stranding machines theoretically possible to achieve, the actual production speed depends on various factors, such as: quality of wire supply, bobbins, the proficiency of operator and product structure.						
Bobbin dimensions	Weight when bobbin full			Max600KG			
	Tension			0-5kgf			
	Guide pulley dia			90mm			
	Haul-off capstan dia			54.8-157			
	Emergency stop time			8 seconds (from max. speed)			
	BOBIN	FLANGE SIZE	BARREL SIZE	OVERALL WIDTH	TRAVERSE RANGE	BORE SIZE	LOADING WEIGHT
	630	630mm	315mm	475mm	415mm	127mm	500KGS

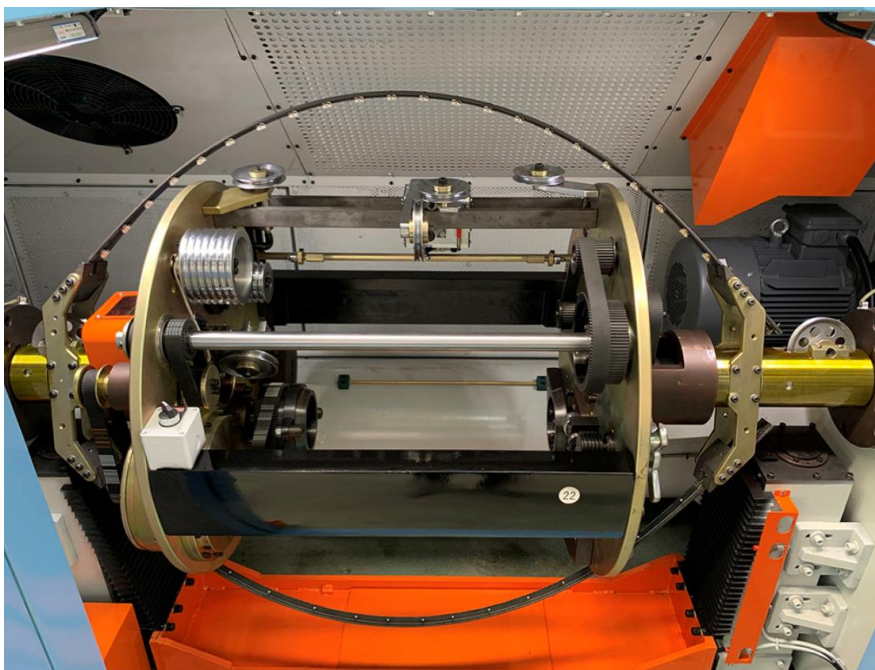
Operation direction	Operation direction selection is based on layout of the factory, usually, for two machines, so that the operator can monitor the two machines at the same time.
Noise level	Max. 85 dBA (average value), Tested at 1 meter from the machine according to DIN45635 standard.
Supply voltage	3×380V+/-10%+PE
Total capacity	20KVA
Power frequency	50Hz+/-2%
Control voltage	230 V AC / 24 V DC
Wiring	Cables connected to machine prepared by customers, cables of switch cabinet and between machines are included and well connected.
Cable of switch cabinet	Connected from the bottom, socket connector
Operation and display device	Mounted at the operation desk on cover
Machine installation	Without foundation, fix the machine to the concrete floor by bolts.(installed by customers)
Compressed air	Provided by customers 0.6 Pa (Max. pressure 6 x 10 ⁵ Pa), water and oil free
Electromagnetic compatibility	The machine is conformity with the electromagnetic compatibility specification 89/336/EEG The electromagnetic compatibility of the installation for production line and frequency converter inlet filter has been included.
Control method	touch-screen text display and programmable logic controller (PLC).
Adjustment of pitches	Pitch controlled by gears
Traverse adjustment method	External control, internal electrical line conditioning.

Electrical Equipment

Equipment and cables are designed in accordance with VDE0113/DIN57113 (IEC204-1/EN60204 Part I). If the 24-hour average temperature not more than 35°C, the minimum environmental temperature is +5°C / the maximum environmental temperature is +40°C, altitude is no more than 1,000 meters,

Relative Humidity: maximum 50% at 40°C; maximum 90% at 20°C; In the state of the power supply mentioned as per EN60204-1/4.3.2, the electrical system of the production line can work without fault surely.

The overall impact to the factory's power supply grid can be improved by installing compensation equipment by the user only. We recommend that users to analysis the power supply grid after the production line operation.



4.6.2. 630mm double head motorized pay-off

Bobbin size	630mm
Number of Bobbin	1 sets with two head
Wire Diameter	φ0.12 ~φ1.05mm
Line speed	50 ~ 250m / min
Power	1.5KW AC Inverter motor + inverter
Bobbin locking	wear shaft with nut locking
Bobbin loading	Handle lift for the spools (630 lift for free)
Tension control	In the swing bar is installed on the cylinder, the pressure regulator valve can be adjusted by the pressure of the cylinder to change the pay-off tension

BOBIN	FLANGE SIZE	BARREL SIZE	OVERALL WIDTH	TRAVERSE RANGE	BORE SIZE	LOADING WEIGHT
630	630mm	315mm	475mm	415mm	127mm	500KGS



4.7. Electrical control system

5.1	The power of the machine: 3-phase and 5-wire standard, 380V (±10%), 50 HZ.
5.2	PLC+Touch Screen: SIEMENS
5.3	AC driver system: SIEMENS
5.4	Main Low voltage component: SIEMENS/SCHNEIDER
5.5	With overload protection device

4.8. Detailed 630 main stranding machine description

Products Model	The mechanical body is treated by annealing, eliminate stress, precision boring machine through a molding process.
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	Material: low carbon steel welding structure
Main shaft	Material: 45# steel slag after quenching and tempering. Accuracy: cylindrical core shaft and bearing positioning end are all lapped, ensure that the concentricity of axis core and the vertical degrees. Balancing: the accuracy of balancing is G2.5 grade (the variance of weight is 0.03 grams)
Main shaft bearing base	Material: ductile iron QT42-10. Processing: CNC machine tools Accuracy: inner hole end, a molding process to ensure the concentricity.
Main shaft bearing lubrication system	The lubrication methods: oil splash lubrication The oil type: 46 anti-wear hydraulic oil The sealing way: mechanical oil baffle ring and oil return hole prevent oil leakage, keep the machine interior cleaning
Arch belt	Material: imported Japan quality SK5 heat treatment. Shape: special appearance and reduce wind resistance. The variance of weight: each variance of weight <0.03 grams.
Wire guiding wheel	Material: #45 steel heat treatment HRC30-40. Plating hard chromium or spraying ceramic on surface, not been worn.
Take-up	Take-up tension control: take-up tension is controlled by magnetic powder clutch . PLC automatic follow-up and regulate tension, the tension is constant.
Traverse	Special made bidirectional $\phi 30\text{mm}$ rolling ring traverse, winding pitch and breadth are adjustable

4.9. Production line configuration instructions

SN	Description of goods	Model	Origin
1	Main motor	7.5KW	SFC or DANMA brand Brake motor
2	Converter	7.5KW	SIEMENS or YASKAWA
3	PLC program		SIEMENS
4	PLC expander	1set	SIEMENS
5	Touch screen	colorful	SIEMENS
6	Electromagnetic brake	48KG	Taiwan ShiYi
7	Magnetic powder clutch	10kg	Tai Wan Qian Dai
8	Bearing	1set	Japan NSK
9	Belt	1set	America Gates

10	Traverse(special made bidirectional)	GP40 two-way	CHINESE famous brand
11	Electrical hydraulic pump	DYG-8	CHINESE famous brand
12	Tension controller	WLK-3A	Tai Wan
13	Arch belt	1piece	Japan
14	Arch belt ceramic ring	1set	HongKong QiJian
15	Cabinet	1set	Processing by factory
16	Spindle	2pcs	Processing by factory
17	Aluminum disk	2pcs	Processing by factory
18	Synchronization strap	1set	CHINESE famous brand
19	Bearing housings	1set	Processing by factory
20	Cylindrical disk	2pcs	Processing by factory
21	Synchrouous bearings	1piece	Outside Processing
22	Capstan wheel	1set	After processing with plating hard chromium on surface.
23	Wire guiding wheel	6pcs	After processing with plating hard chromium on surface.

4.10.BUNCHING MACHINE DIE LIST

SN	Model	Conductor size	structure	Conductor Dia	Die size	QTY	Price
1		1	1x32/0.20	1.31	1.64		
2	630	1.5SQMM	1x48/0.20	1.6	2.00	3	
3		1.5SQMM	7x0.52	1.56			
4		2.5SQMM	1x77/0.20	2.03	2.54	3	
5		2.5SQMM	7x0.67	2.01			
6		4SQMM	1x56/0.30	2.59	3.24	3	
7		4SQMM	7x0.84	2.52			
8		6SQMM	1x84/0.30	3.17	3.96	3	
9		6SQMM	7x1.03	3.09			

五、SPARE PARTS LIST

No.	Description	Model	Qty
1	Spindle guide wheel	φ126(with 6300ZZNR Bearings)	1SET
2	Wire guide wheel	φ109(with 6300ZZNR Bearings)	1SET
3	Loops in Bow		3pcs
4	Split plate porcelain ring	Φ6.8	3pcs

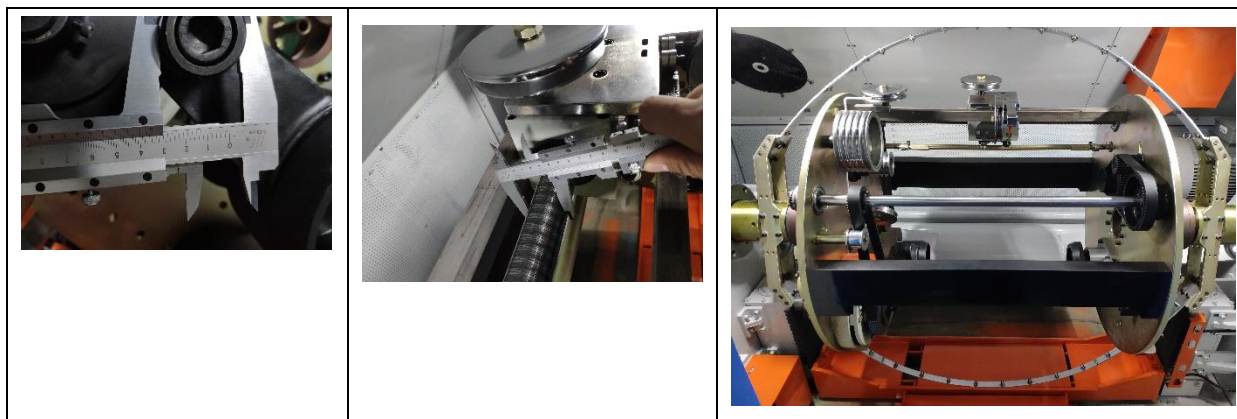
5	Stranded Die	Client provide	
6-9	Timing belt		1pcs
10	Spool Top sleeve	According to customer's reel drawings	1SET
11	Tool	With hex wrench, open wrench and etc	1SET
12	Operating instructions		1SET
13	Electrical Schematic		1SET
14	Inverter manual		1pcs

六、ENGINEERING DOCUMENTS


6.1	Machine layout, foundation drawing
6.2	Electricity, piping drawings
6.3	Operation manuals
6.4	Transmission system drawing.

七、INSPECTION & REPORT&SHIPMENT

7.1. INSPECTION PICTURE



7.2.INSPECTION REPORT

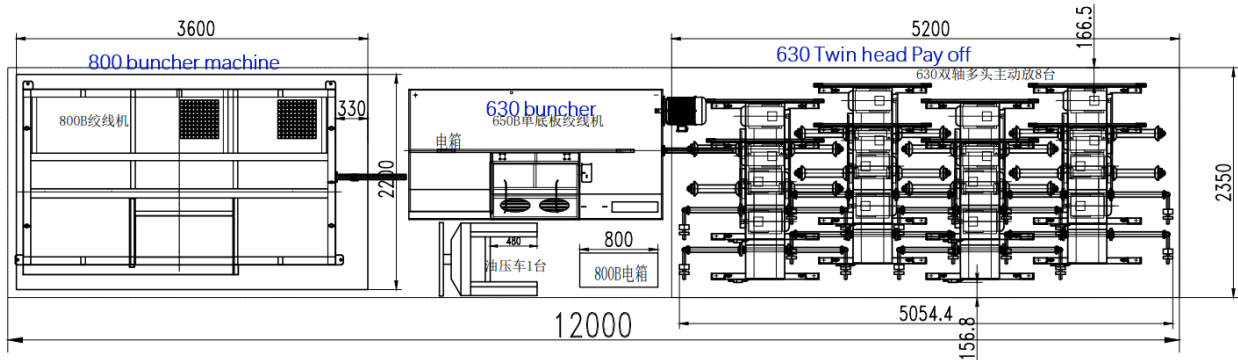
SN	ITEM	Inspection	Specification	Manufacturer Details	Inspection result	Photo		Conclusion	Remarks
1	Pay-off	Motor	1.5KW	Made In China	ok			OK	
2		suitable spool	500-630	AS the confirmed Drawing	ok			OK	
3		Tension control	cylinderOrLevel	ok	ok			OK	
4	630 speed double twister bunching machine	Main motor	15kW-6P 380V 50HZ	Siemens brand	ok			ok	
5		Inverter	≥15KW	INOVANCE brand	ok			ok	
6		PLC	PLC Programmer& PLC Expander	Siemens brand	ok			ok	
									

7.3.PACKING & SHIPMENT

7.3.1.PACKING DETAILS

SN	Name	HS code	Dimension(mm)			Unit V	Unit net weight	Unit gross weight	PKG NO
1	SWM-BM630/2*CDMP630 buncher machine with 630mm Twin head pay off	8477209000				12.38	4040	4000	2
	申报要素	0:品牌类型; 无 1:出口享惠情况;无 2:用途;用于制缆流水线设备 3:品牌;无 4:型号;HD-800 5:GTIN;无 6:CAS;无							

7.3.2. PACKING DRAWING



1 PCS of 40 HQ can load: 1 set of 630 buncher machine +1 set of 800 buncher machine

1 PCS of 20GP can load: 1 set of 630 buncher machine

7.4. SHIPMENT PICTURE

7.4.1. SHIPMENT PICTURE



7.4.2. UPLOADING INSTRUCTION

Unloading instruction for the third container

When the container come to the customer site, if possible, please lift the whole container with the cargo on the floor (loading capacity of the bridge crane required at least 20T), then unload the cargo from the container step by step.

If cannot, You can still unload based on the following steps

1. Tools preparation before unloading:



Bridge crane (5-20T)



Fork lift (loading capacity: 10T)



Hand fork lifter (3-5T)



Nylon rope (loading capacity: 5T)

2.2 630 buncher

- Forklift truck coming to lift and move out



—、ADVANTAGE



1. High speed and good stability (the motor through the rigid coupling directly connected with the drive shaft)
- 2.
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: butter lubrication (PLC auto Oil lubrication: Avoid artificial factors without regular refueling caused spindle bearings lack of oil, bearing damage).
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 cannot start to work.
6. Rotation Arm: after high-speed dynamic balancer processing; noise less than 82 decibels.
7. Spindle pulley and wire guide pulley are enlarged, the conductor bending radius is increased, and the twisted conductor is more rounded.
8. Electrical control: user-friendly touch screen interface operation, control by the PLC programmer + inverter.
9. Bow with carbon fiber, strong hardness, not easy to deform, small vibration, light weight, small centrifugal force, wire slot, reduce wire and air friction, so that the quality is more stable.
10. Transmission system: drive with synchronous belts, laying accurate, no internal lubrication position, no waste products effect by refueling and machine cleaning.

二、HOW TO CHOOSE MODEL

三、QUOTATION

CUSTOMER CODE:			QUOTON NO:		
CUSTOMER INFORMATION:			DATE:		
TEL:			MANUFACTURE:		
FAX:			PAYMENT TERMS:		
ATTN:			BENEFICIARY: SHANGHAI SHINEWORLD ENGINEERING CO., LTD.		
			ACCOUNT NO.: 450773903470 (USD)		
			BANK NAME: BANK OF CHINA, SHANGHAI DALIAN ROAD SUB-BRANCH		
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			BANK TEL.: 86-21-33772960		
			FAX: 86-21-33772962		
			SWIFT CODE: BKCHCNBJ300		
SN	DESCRIPTION	PICTURE	QTY	FOB SHANGHAI UNIT PRICE/USD	FOB SHANGHAI AMOUNT/USD
1	SWM-BM630 Bunching stranding machine		1.00SET	51200.00	51200.00
2	CDMP630 Double pay-off		2.00SET	8000.00	8000.00
TOTAL:					59200.00

REMARK:

- 1, The detailed specification will be integral part of this quotation.
- 2, Price basis: Price are for delivery FOB shanghai, China according to INCOTERMS 2010. And the exchange rate for USD: RMB is 1:6.60. If the exchange rate is changed over 0.5%, the quotation will be adjusted accordingly even in the validity time.
- 3, Validity of quotation: the quotation is validly within 30 days after issue date.
- 4, Delivery period: the delivery time is 30 days after receipt of your down payment and clarification of all technical and commercial details. The agreed delivery period is subject to the punctual receipt by

us of all equipment, documents approvals release and services to be furnished by buyer for the performance of the order.

5, The quotation is based china standard material and package.

6, The buyer should provide:

The water pipe, compressed air pipe used in site. And response to connect with the machine corresponding connectors.

All the Wire and cable between transformers to the electrical cabinets.

Installation.

7, The following are not included in the scope of our supply:

The preparation of the site with all the necessary foundation work and ceiling openings etc.

The connection cables from the mains to the switch unit and from this to the various motors and auxiliary units of our equipment.

The electrical installation including the required safety devices outside the machine and switch unit.

The connection pipes, gravity feed hoppers etc., between the various units supplied by us.

Any required frames, platforms, suspension devices, etc., the operation media such as oil, grease etc., as well as raw material for the stating up and operation.

8, The parties agree that any claim to compensation for loss of profit as well as for indirect damage and consequential damage, on the basis of whatever legal ground, are excluded. This shall not apply if legal.

9, All equipment and technical service technical training are expressly stated in our quotation.

10, All supervision of installation & commissioning charge (include visa cost, insurance, round tickets, subsidy worked in the buyer's factory; around 2-3 engineers include 1 project manager, worked around 1 months). But the buyer bears expenses of accommodation, local transportation, food, sim card & Wi-Fi for the seller's engineers for installation commissioning & technical training. Because of COVID-19, these cost will be charged separately.

11, all the bank charge is paid by buyer .

12, all the options device is not included in the above offer.

四、SPECIFICATION

SWM-BM800/2*CDMP800 Double Twist Buncher Machine

Solution for class 5 flexible conductor stranding: 2.5-16mm²

With 1 set 800 main double twisting machines

With 4 sets-double 630 motor driving pay-off

4.1. Application

It is applied to the stranding of bare twisted wire, tinned, copper covered aluminum, lacquer wire and alloy wire.

4.2. Main Technical Parameter





SN	SIZE	STRUCTURE	Pitch	Speed-rpm	m/min
1	1 mm ²	32/0.2	25.6	1500	76
2	1.5 mm ²	30/0.25	34.6	1400	96
3	2.5 mm ²	50/0.25	38.1	1300	99
4	4 mm ²	56/0.3	51.9	1200	124
5	6 mm ²	84/0.3	58.8	1000	117
6	10 mm ²	78/0.4 (84/0.4)	88	900	158
7	16 mm ²	126/0.4	113	800	180

4.3.General standard

SN	Electrical Specs.	
1	Motors	Siemens CHINA
	AC Drives	Siemens
	Low Voltage components	Siemens or Schneider
	PLC	S7-200 smart
	HMI	Siemens
	Communication	RS485/Ethernet
	Power Supply	400V ±10 % (4 Wire) – 50 HZ ± 20 %
	Aux. Control Voltage	24 V DC
	Operating Power Factor	Not < 0.9
	Electric cabinet	With cabinet AC
	Power monitoring meter	No need for small machine
2	Bearing	Main shaft: SKF The others: NSK
3	Environment conditions	
3.1	Ambient Temp.	+5 : 45 m

3.2	Altitude Above sea level	> 1000 m
3.3	Relative Humidity	50 % at 40 °C 90 % at 20 °C
4	Colors	
4.1	Machine Frame	Blue RAL 5012
4.2	Rotating Parts	Orange RAL 2004
4.3	Electrical Cabinet	Grey RAL 7035
4.4	Safety guards	Yellow RAL 1007
4.5	Greasing Points	Red RAL 3020

4.4. Main production parameter

SN	Item	Parameter
4.4.1	Single conductor wire diameter	0.20-1.7mm (Copper and Aluminum wire)
4.4.2	Finished products size	2.5-16mm ²
4.4.3	Twisting pitch	48.0~120mm(34 section 11.6~100mm)
4.4.4	Max Speed of frame bow	1600rpm(3200twists/min)
4.4.5	Direction of twist	S, Z.
4.4.6	Main motor	15KW
4.4.7	Take-up bobbin	PND800
4.4.8	Power supply	380V ±10% , 50HZ
4.4.9	Machine color	
4.4.10	Main Machine	 RAL 5015 Himmelblau
4.4.11	Safety protection cover	 RAL 2009 Verkehrsorange
4.4.12	Moving and rotating parts	 RAL 1026 Leuchtgelb
4.4.13	Electrical cabinets	 RAL 7035 Lichtgrau
4.4.14	Operation direction	From left to right , or from right to left

4.5. Main components

4.5.1	Double motorised pay-off	630mm	3sets/6bobbin
4.5.2	Close die stand		1 set
4.5.3	800 main stranding machine		1 set
4.5.4	Loading /unloading system		1 set
4.5.5	Electrical control system		1 set

4.5.6	Safety fence		1 set
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4.6. Technical Specification for main components

4.6.1.800 main stranding machine

Products Model	800																				
Fit materials	Bare copper wire, Tinning line, Silvering line.																				
Wire Diameter	Irregular Bunching Wire dia.				Min0.25-Max17mm																
Product range	Half-regular Bunching(1+6) Sectional area				Min2.5-Max16 mm ²																
Pitches	23~160mm				leading wheel according to the lay length sheet-The technology from Japan-KINREI BRAND																
Max. Line speed	Max 250m/min (Line speed according to the lay length)																				
The largest production speed	1600 rpm 3200-twist/min Production speed is the stranding machines theoretically possible to achieve, the actual production speed depends on various factors, such as: quality of wire supply, bobbins, the proficiency of operator and product structure.																				
Bobbin dimensions	Weight when bobbin full				Max600KG																
	Tension				0-5kgf																
	Guide pulley dia				90mm																
	Haul-off capstan dia				54.8-157																
	Emergency stop time				8 seconds (from max. speed)																
<table><tr><td>BOBIN</td><td>FLANGE SIZE</td><td>BARREL SIZE</td><td>OVERALL WIDTH</td><td>TRAVERSE RANGE</td><td>BORE SIZE</td><td>LOADING WEIGHT</td></tr><tr><td>800</td><td>600mm</td><td>315mm</td><td>600mm</td><td>500mm</td><td>125mm</td><td>800KGS</td></tr></table>								BOBIN	FLANGE SIZE	BARREL SIZE	OVERALL WIDTH	TRAVERSE RANGE	BORE SIZE	LOADING WEIGHT	800	600mm	315mm	600mm	500mm	125mm	800KGS
BOBIN	FLANGE SIZE	BARREL SIZE	OVERALL WIDTH	TRAVERSE RANGE	BORE SIZE	LOADING WEIGHT															
800	600mm	315mm	600mm	500mm	125mm	800KGS															
Operation direction	Operating direction: from left to right or right-to-left Operation direction selection is based on layout of the factory, usually, for two machines, so that the operator can monitor the two machines at the same time.																				
Noise level	Max. 85 dBA (average value), Tested at 1 meter from the machine according to DIN45635 standard.																				

Supply voltage	3×380V+/-10%+PE
Total capacity	20KVA
Power frequency	50Hz+/-2%
Control voltage	230 V AC / 24 V DC
Wiring	Cables connected to machine prepared by customers, cables of switch cabinet and between machines are included and well connected.
Cable of switch cabinet	Connected from the bottom, socket connector
Operation and display device	Mounted at the operation desk on cover
Machine installation	Without foundation, fix the machine to the concrete floor by bolts.(installed by customers)
Compressed air	Provided by customers 0.6 Pa (Max. pressure 6 x 10 ⁵ Pa), water and oil free
Electromagnetic compatibility	The machine is conformity with the electromagnetic compatibility specification 89/336/EEG The electromagnetic compatibility of the installation for production line and frequency converter inlet filter has been included.
Control method	touch-screen text display and programmable logic controller (PLC).
Adjustment of pitches	Pitch controlled by gears
Traverse adjustment method	External control, internal electrical line conditioning.
Electrical Equipment	Equipment and cables are designed in accordance with VDE0113/DIN57113 (IEC204-1/EN60204 Part I). If the 24-hour average temperature not more than 35 °C , the minimum environmental temperature is +5 °C / the maximum environmental temperature is +40°C, altitude is no more than 1,000 meters, Relative Humidity: maximum 50% at 40 °C; maximum 90% at 20 °C; In the state of the power supply mentioned as per EN60204-1/4.3.2, the electrical system of the production line can work without fault surely. The overall impact to the factory's power supply grid can be improved by installing compensation equipment by the user only. We recommend that users to analysis

the power supply grid after the production line operation.



4.6.2. 630mm double head motorized pay-off for flexible conductor

Bobbin size	630mm
Number of Bobbin	1 sets with two head
Wire Diameter	φ0.12 ~φ1.05mm
Line speed	50 ~ 250m / min
Power	1.5KW AC Inverter motor + inverter
Bobbin locking	wear shaft with nut locking
Bobbin loading	Handle lift for the spools (630 lift for free)
Tension control	In the swing bar is installed on the cylinder, the pressure regulator valve can be adjusted by the pressure of the cylinder to change the pay-off tension

BOBIN	FLANGE SIZE	BARREL SIZE	OVERALL WIDTH	TRAVERSE RANGE	BORE SIZE	LOADING WEIGHT
630	630mm	315mm	475mm	415mm	127mm	500KGS
800	800mm	400mm	600mm	500mm	80mm	800KGS



4.7. Electrical control system

5.1	The power of the machine: 3-phase and 5-wire standard, 380V (±10%), 50 HZ.
5.2	PLC+Touch Screen: SIEMENS
5.3	AC driver system: SIEMENS
5.4	Main Low voltage component: SIEMENS/SCHNEIDER
5.5	With overload protection device

4.8. Detailed 800 main stranding machine description

Products Model	The mechanical body is treated by annealing, eliminate stress, precision boring
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	<p>machine through a molding process.</p> <p>Material: low carbon steel welding structure</p>
Main shaft	<p>Material: 45# steel slag after quenching and tempering. Accuracy: cylindrical core shaft and bearing positioning end are all lapped, ensure that the concentricity of axis core and the vertical degrees.</p> <p>Balancing: the accuracy of balancing is G2.5 grade (the variance of weight is 0.03 grams)</p>
Main shaft bearing base	<p>Material: ductile iron QT42-10.</p> <p>Processing: CNC machine tools</p> <p>Accuracy: inner hole end, a molding process to ensure the concentricity.</p>
Main shaft bearing lubrication system	<p>The lubrication methods: oil splash lubrication</p> <p>The oil type: 46 anti-wear hydraulic oil</p> <p>The sealing way: mechanical oil baffle ring and oil return hole prevent oil leakage, keep the machine interior cleaning</p>
Arch belt	<p>Material: imported Japan quality SK5 heat treatment.</p> <p>Shape: special appearance and reduce wind resistance.</p> <p>The variance of weight: each variance of weight <0.03 grams.</p>
Wire guiding wheel	<p>Material: #45 steel heat treatment HRC30-40.</p> <p>Plating hard chromium or spraying ceramic on surface, not been worn.</p>
Take-up	<p>Take-up tension control: take-up tension is controlled by magnetic powder clutch . PLC automatic follow-up and regulate tension, the tension is constant.</p>
Traverse	<p>Special made bidirectional $\phi 30\text{mm}$ rolling ring traverse, winding pitch and breadth are adjustable</p>

4.9. Production line configuration instructions

SN	Description of goods	Model	Origin
1	Main motor	7.5KW	SFC or DANMA brand Brake motor
2	Converter	7.5KW	SIEMENS or YASKAWA
3	PLC program		SIEMENS
4	PLC expander	1set	SIEMENS
5	Touch screen	colorful	SIEMENS
6	Electromagnetic brake	48KG	Taiwan ShiYi
7	Magnetic powder clutch	10kg	Tai Wan Qian Dai
8	Bearing	1set	Japan NSK

9	Belt	1set	America Gates
10	Traverse(special made bidirectional)	GP40 two-way	CHINESE famous brand
11	Electrical hydraulic pump	DYG-8	CHINESE famous brand
12	Tension controller	WLK-3A	Tai Wan
13	Arch belt	1piece	Japan
14	Arch belt ceramic ring	1set	HongKong QiJian
15	Cabinet	1set	Processing by factory
16	Spindle	2pcs	Processing by factory
17	Aluminum disk	2pcs	Processing by factory
18	Synchronization strap	1set	CHINESE famous brand
19	Bearing housings	1set	Processing by factory
20	Cylindrical disk	2pcs	Processing by factory
21	Synchrouous bearings	1piece	Outside Processing
22	Capstan wheel	1set	After processing with plating hard chromium on surface.
23	Wire guiding wheel	6pcs	After processing with plating hard chromium on surface.

4.10.BUNCHING MACHINE DIE LIST

SN	Model	Conductor size	structure	Conductor Dia	Die size	QTY	Price
1	800	4SQMM	1x56/0.30	2.59	3.24	1	
2		4SQMM	7x0.84	2.52			
3		6SQMM	1x84/0.30	3.17	3.96	1	
4		6SQMM	7x1.03	3.09			
5		10SQMM	7x11/0.40	4.59	5.74	1	
6		16SQMM	7x17/0.40	5.71	7.14	1	

五、SPARE PARTS LIST

No.	Description	Model	Qty
1	Spindle guide wheel	φ126(with 6300ZZNR Bearings)	1SET
2	Wire guide wheel	φ109(with 6300ZZNR 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

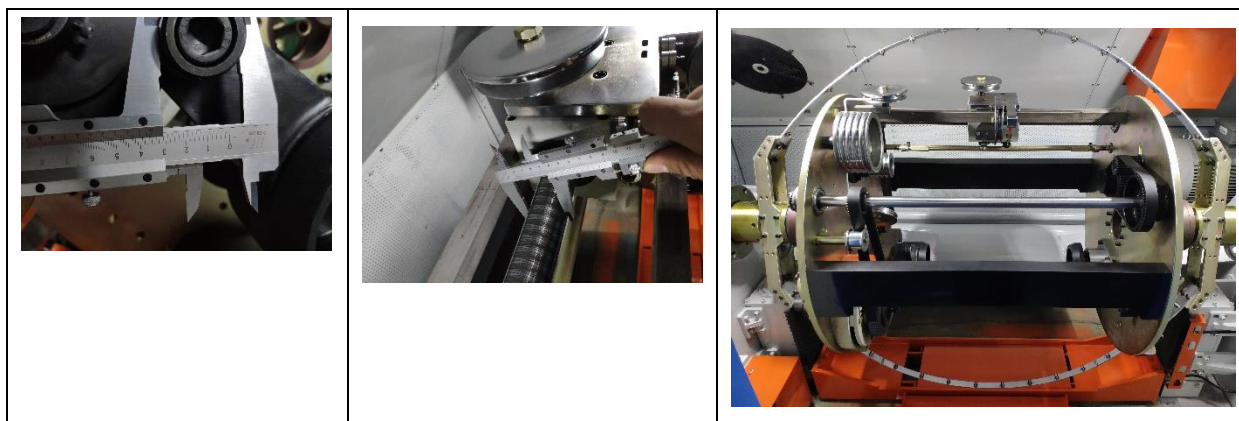
10	Spool Top sleeve	According to customer's reel drawings	1SET
11	Tool	With hex wrench, open wrench and etc	1SET
12	Operating instructions		1SET
13	Electrical Schematic		1SET
14	Inverter manual		1pcs

六、ENGINEERING DOCUMENTS

6.1	Machine layout, foundation drawing
6.2	Electricity, piping drawings
6.3	Operation manuals
6.4	Transmission system drawing.

七、INSPECTION & REPORT&SHIPMENT

7.1. INSPECTION PICTURE



7.2.INSPECTION REPORT

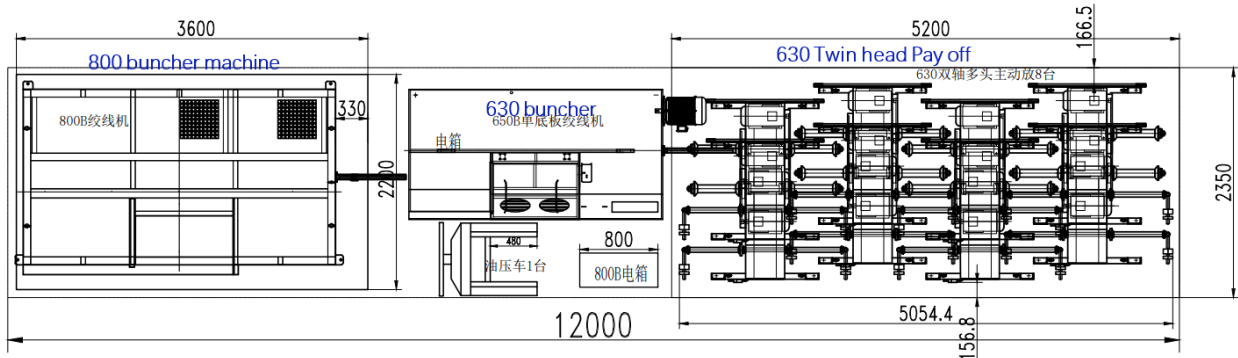
SN	ITEM	Inspection	Specification	Manufacturer Details	Inspection result	Photo		Conclusion	Remarks
1	Pay-off	Motor	1.5KW	Made In China	ok			OK	
2		suitable spool	500-630	AS the confirmed Drawing	ok			OK	
3		Tension control	cylinderOrLevel	ok	ok			OK	
4	630 speed double twister bunching machine	Main motor	15kW-6P 380V 50HZ	Siemens brand	ok			ok	
5		Inverter	≥15KW	INOVANCE brand	ok			ok	
6		PLC	PLC Programmer& PLC Expander	Siemens brand	ok			ok	
									

7.3.PACKING & SHIPMENT

7.3.1.PACKING DETAILS

SN	Name	HS code	Dimension(mm)			Unit V	Unit net weight	Unit gross weight	PKG NO
1	SWM-BM630/2*CDMP630 buncher machine with 630mm Twin head pay off	8477209000				12.38	4040	4000	2
	申报要素	0:品牌类型; 无 1:出口享惠情况;无 2:用途;用于制缆流水线设备 3:品牌;无 4:型号;HD-800 5:GTIN;无 6:CAS;无							

7.3.2. PACKING DRAWING



1 PCS of 40 HQ can load: 1 set of 630 buncher machine +1 set of 800 buncher machine

1 PCS of 20GP can load: 1 set of 630 buncher machine

7.4. SHIPMENT PICTURE

7.4.1. SHIPMENT PICTURE



7.4.2. UPLOADING INSTRUCTION

Unloading instruction for the third container

When the container come to the customer site, if possible, please lift the whole container with the cargo on the floor (loading capacity of the bridge crane required at least 20T), then unload the cargo from the container step by step.

If cannot, You can still unload based on the following steps

2. Tools preparation before unloading:



Bridge crane (5-20T)



Fork lift (loading capacity: 10T)



Hand fork lifter (3-5T)



Nylon rope (loading capacity: 5T)

2.2 630 buncher

- Forklift truck coming to lift and move out



**HH630 high speed double twister bunching machine
with 196 heads pay off**

鸿辉报价: 630 主机 10 万元; 放线: 350 元/头

总价: 16.86 万

1. Main Specification

- a) The max bobbin size (mm) : $\phi 630 \times 360$;
- b) Copper wire section area (mm²) : 1.5-6mm² ;
- c) Copper wire size(mm): 0.23-0.64mm
- d) Lay pitch (mm) : 26.0 ~ 75.0mm;
- e) Twisting direction: "S" or "Z";
- f) Twisting speed (r/min) : 0 ~ 1500;
- g) The height of spindle from ground (mm) : 860mm;
- h) Machine size (mm) : 2850*1500*1660mm;
- i) Weight (kg) : 2920kg
- j) Power supply: 380V、50Hz;
- k) Installation height: $\leq 1000\text{m}$;
- l) Installation tem: $\leq 40^{\circ}\text{C}$;
- m) Wire inlet direction: from right to left or from left to right
- n) Noise: $\leq 85\text{db}$.
- o) pay off: 196 heads; bobbin size: 200mm
- p) take up: 630mm

2. Operate system and electric

- a) Motor: 7.5KW (Siemens) , inovance inverter;
- b) Take up tension: by manual;
- c) Bobbin up and down: manual-hydraulic;
- d) Electrical control: PLC (Mitstubishi) ;

- e) Travers: polish rod, distance can adjustable;
- f) Brake: Electromagnetic brake (include internal and external)

3. Machinery

- a) Machine body structure: material of Q235; Enclosure made by iron plate welded surface forming, after annealing treatment, eliminate the internal stress and precision by boring machine.
- b) Spindle: 40 cr; Axis of the conditioning HB250, ensure to eliminate internal stress, increase the intensity of main spindle, bearing installation after a high frequency surface processing, improve the Resistance to wear.
- c) Bow material: spring steel belt.
- d) wire holder on twisting bow : Ceramic eye+ guide wheel
- e) bearing: mainly adopts Japan NSK.
- f) Safety: the door controlled by magnetic lock, only can be open after totally stop. The lifting system can't be up and down when machine working. Only can open the machine when door closed and lifting system down in place

4. Reference picture





**HH800 double twister bunching machine
with 196 heads pay off**

**鸿辉报价: 630 主机 16.8 万元; 放线: 350 元/头
总价: 23.66 万**

1. Main Specification

- | | |
|--|-------------------------|
| a) The max bobbin size (mm) : | $\phi 800 \times 600$; |
| b) Copper wire section area (mm ²) : | 2.5-16mm ² ; |
| c) Copper wire size(mm): | 0.41-1.05mm |
| d) Lay pitch (mm) : | 27. 4 ~ 144. 11mm; |
| e) Twisting direction: | "S" or "Z"; |
| f) Twisting speed (r/min) : | 0 ~ 1200; |
| g) The height of spindle from ground (mm) : | 887mm; |

- h) Machine size (mm) : 3630*1600*1750mm;
i) Weight (kg) : 5800kg
j) Power supply: 380V、50Hz;
k) Installation height: ≤1000m;
l) Installation tem: ≤40℃;
m) Wire inlet direction: from right to left or from left to right;
n) Noise: ≤85db.
o) pay off: 196 heads; bobbin size: 200mm
p) take up: 800mm

2. Operate system and electric

- a) Motor: 15KW (Siemens) , inovance inverter;
b) Take up tension: controlled by magnetic powder clutch (Taiwan brands), which can adjust the tension automatically;
c) Bobbin up and down: Electrical-hydraulic;
d) Electrical control: PLC (Omron) ;
Operate system (auto alarm when wire broken, stop, meter setting., ect) data storage system, operate instruction)
e) Operation interface: Touch screen (Omron) ;
f) Travers: polish rod, distance can adjustable;
g) Brake: Electromagnetic brake (include internal and external)
h) Has Auto lubricate structure

3. Machinery

- a) Machine body structure: material of Q235; Enclosure made by iron plate welded surface forming, after annealing treatment, eliminate the internal stress and precision by boring machine.
b) Spindle: 40 cr; Axis of the conditioning HB250, ensure to eliminate internal stress,

increase the intensity of main spindle, bearing installation after a high frequency surface processing, improve the Resistance to wear.

- c) Bow material: spring steel belt.
- d) wire holder on twisting bow : Ceramic eye+ guide wheel
- e) bearing: mainly adopts Japan NSK.
- f) Safety: the door controlled by magnetic lock, only can be open after totally stop. The lifting system can't be up and down when machine working. Only can open the machine when door closed and lifting system down in place

4.Machine pictures for reference:



Φ1250mm type double twist stranding machine**(Double bows)****汉鼎报价：98 万****1. Introduction of application**

This machine is suitable for stranding Copper wire, PVC wire, Al wire and below 7 stands conductor, mainly used for sectional area for copper 50 mm², AL 70mm².

This equipment is dedicated to twist Aluminum and Copper round compress conductor. This project contains external rotation pressure die structure, and provide the required traction used for compress conductor, when the conductor compress, the take-up part of bundling machine will obtain, and have a special line way to reduce torque between rotating traction wheel and take-up bobbin, can ensure that there is a good round conductor.

2.Main performance features:

- 2.1 Double bow technique is adopted
- 2.2 Wireless signal transmission
- 2.3 Excavation free foundation and installation
- 2.4 The space is very small
- 2.5 Ultra short cable channel
- 2.6 Reliable slip ring system
- 2.7 Hydraulic up and down discharger
- 2.8 Automatic lubrication system
- 2.9 Automatic bearing temperature sensing system
- 2.10 Servo motor energy saving 20%
- 2.11 Advanced aerodynamic design
- 2.12 Servo motor and control system
- 2.13 NSK bearing, high tensile strength
- 2.14 Installation of smart meter in control cabinet

3. Equipment composition

No.	Description	Qty.	Unit	Function	Remark
1	(Coiler) Barrel type pay off	8	Heads	Pay off	
2	Wire inlet device	1	PC	Wire collection	
3	Tension balance	1	Set	Balance tension	
4	1250mm double twist stranding machine	1	Set	Wire stranding	
5	Rotation die stand	1	Set	Conductor compact	
6	PLC type main electric cabinet & control system	1	Set	System control	
7	Automatic lubrication system	1	Set	lubrication	
8	Automatic bearing temperature sensing system	1	Set	temperature sensing	
9	Air condition	1	Set	Air cooled the cabinet	
8	Mould	1	Set	Conductor finish size	For one size
9	Painting: A. RAL5015 B. RAL7035 C. RAL6017 D.RAL5023 E. customer specified				
10	Operation direction: A: from left to right ; B: from right to left				
11	Installation length of the production line see installation schematic diagram				

4. Brand of main accessories:

4.1. Main Motor: Servo motor SINEE brand

4.2. Servo controller: SINEE brand

4.3. PLC: SIEMENS S7-1200 series

4.4. Touch screen: SIEMENS TP-1200-12 inch

4.5. Bearing: Adopt Japanese NSK brand

4.6. Bow: Carbon fiber (TAIWAN)

4.7. Low voltage electric components: Schneider brand.

5. Main parameter

5.1. Wire diameter of wire inlet: $\Phi 1.0\text{mm}-3.0\text{mm}$ /7cores(Copper wire) /50mm²
 $\Phi 1.5\text{mm}-3.5\text{mm}$ / 7 Cores (AL wire) /70mm²
 $\Phi 2.0\text{mm}-6.5\text{mm}$ /2-4 cores (2-4 cores 1.0mm²-10.0mm²)

5.2. Conductor section area of stranding: 5.5-50mm² (Copper conductor)
 10.0-70mm² (AL conductor)

5.3. Lay range (Copper and Aluminum) : 40-350mm. Thumb wheel type setting automatic calculation and adjustment.

5.4. Wire diameter of stranding:

5.4.1. Stranding section (flexible strands): 3.5-70mm²,

5.4.2. Stranding section (1 + 6): 3.5-50mm²

5.4.3. Compacted copper: 3.5-50mm²

5.4.4. Compacted aluminum: 3.5-70mm²

5.4.5. Maximum line speed: 150m/min

5.4.6. Maximum compression pressure coefficient: 13%

5.5. Direction of twisting: S.Z. (Left and right twisting direction can be selected).

5.6. Speed of rotation body: 800 RPM/MAX. (1600 Twist), normal working speed:600RPM (1200 twist);

5.7. Power:

Main frame: 55KW servo Motor

Capstan: 30KW servo Motor

Spool tension: 7.5KW servo Motor

Traverse unit: 0.75KW servo Motor

Rotation die stand: 0.75KW servo Motor

5.8. Spool drum size: Max 1250mm

Spool load capacity: Max 5000KG

5.9. Power source: 380V, 50Hz(or depend on customer's requirement)

5.10. Drum loading and unloading:

Type: Motor shaftless type.

Bobbin load /unload: by electric lifting platform control

5.11. Low noise design: Main machine noise is insulated by safety cover, noise below -80db.

5.12. Brake: Adopt pneumatic brake.

5.13. Control: PLC system control.

5.13.1. Servo control.

5.13.2. Wire-broken stop indicate, and own pneumatic clamping device. It avoids to break wire during producing wire or threading wire on machines.

5.13.3. Meter reached will be stop.

5.13.4. Safety limit control.

5.13.5. Lighting control inside machine.

5.14. Used air pressure: 6Kg/cm².

5.15. Add a side door at back of safety cover to convenient maintenance.

5.16. Add pressure wheel at the meter counting wheel.

5.17. Carbon brush connection to use the cable.

6. Equipment content

6.1. Wire inlet	1 set
6.2. Base of the inlet wire	1 set
6.3. Synchronous transmission system	1 set
6.4. Power	1 set
6.5. Part of rotation body	1 set
6.6. Bow part	1 set
6.7. Cradle part	1 set
6.8. Wire though die	1 set

6.9. Traverse part	1 set
6.10. Capstan part	1 set
6.11. Adjustment part of spooling tension	1 set
6.12. Suitable spooling tension adjustment part	1 set
6.13. Bobbin load/unload part	1 set
6.14. Stranding pitch setting part	1 set
6.15. Electric control part	1 set
6.16. Safety cover part	1 set
6.17. Lubrication method	1 set
6.18. Brake part	1 set
6.19. Spare part	1 set
6.20. Compression device	1 set

7. Specification:

7.1. basket pay off (8pcs)

- 7.1.1 control type: pneumatic adjust the tension;
- 7.1.2 loading /unloading: fork lift;
- 7.1.3 lubrication type: grease lubrication;
- 7.1.4 the buyer should provide the drawing of basket.



The pay off for reference

7.2. Die holder

Single seat, 6a (1 + 6) and inlet orifice plate

The wear-resistant ceramic eye is used to pass the wire to reduce the elongation and strain in wire production.



7.3. Power transmission system:

- a. Main motor transmit belt by synchronous belt.
- b. It transmit on timing with toothed belt between the transmission shaft and main shaft.

7.4. Servo motor driver:

A. Rotation body:	55KW Servo Motor
B. Capstan:	30KW Servo Motor
C. Spooler:	7.5KW Servo Motor
D. Traverse:	0.75KW Servo Motor
E. Rotation die stand:	0.75KW Servo Motor

7.5. Rotation body part:

The main shaft has been treated by anneal, to eliminate stress. So it is suitable for operation for long time without deformation.

7.6. Bow part:

- a. Material: Carbon fiber blow (Taiwan Lian).
- b. Wire guide rollers on the blow wire are u type, Outer diameter is 49mm, Inner groove diameter is 28mm, channel curve is R10, groove depth is 10.5mm, groove width is 20L.
- c. Loading and unloading bobbin with protection switch

7.7. Cradle part:

- a. Cradle is easy to loading and unloading, the operating and leading wire working in the front position.

b. Cradle is design and produce a unit, it have been annealed treatment, reduce the deformation.

7.8. Guide die: die material is tungsten.

7.9. Traverse part:

a. Traverse motor: 0.75KW servo motor and line speed is synchronously controlled by inverter

b. Transmission: Ball screw(Taiwan HIWIN).

c. Traverse pitch: Digital setting.

7.10. Capstan part:

a. Power: 30KW Servo Motor

b. Type: U type, 5×6 groove, double capstan wheel.

c. Wheel : Out diameter is 500mm, bottom diameter is 460mm, groove is R10 type. groove surface is chromium coating.

7.11. Adjustment part of spooling tension:

a. Tension control: 7.5Kw Servo Motor

b. Tension range: 2-20Kg.

7.12. Diameter of take-up bobbin (Please provide the following dimensions): (Special bobbin size can be based on your company bobbin size to design)

Outer diameter (ΦD)	Hole diameter (Φd)	Outer width (L1)	Inner width (L2)	Location hole	Center distance	Remark
1250	80	950	800	25	160	

(or according to your company bobbin size)

7.13. Bobbin load/unload part:

a. Type: Motor open shaft, spring jacking shaft, with limited safety switch.

b. Bobbin load/unload: Bobbin load/unload by electrical lifting platform control.

c. Power of lifter: 1/2HP Worm gear reducer, transmission screw lifting platform.

d. Safety control: Safety limit of the upper and down limit by detection switch control, and add safety shield.

7.14. Stranding pitch setting part:

a. Pitch range: 40-350mm.

- b. Data can be set on the operation panel, PLC automatic calculate to control motor runs in synchronization status.

7.15. Electric control system.

7.15.1. Design and wiring of the electric control box.

7.15.2. To adopt electrical products for first class product.

7.15.3. Machine action indicate content:

- a. Main motor On, Off switch and indicator light.
- b. Running indicator light of main motor
- c. Wire-broken stop indicate
- d. Meter reached will be stop
- e. Electromagnetic type brake, the time electrical instrument control.
- f. Lighting control inside machine
- g. System is digital control.

7.16. Safety cover part.

- a. Low noise design: Main machine is insulated by cover. Noise is lower than -80db outside of the cover.
- b. There are some limit switches in of safety door: machine is safety locked.
- c. Internal heat dissipation: 0.65Kw low-speed motor (two sets) , the hot air is circulation outside air.

7.17. Lubrication method:

- a. Bearing: add high-speed grease regularly, some can be added oil automatically
- b. Gear: fill grease with oiler

7.18. Automatic bearing temperature sensing system

Main bearing, induct the bearing temperature by imported thermocouple, 4 measure temperature point. Temperature control table adopts Japan RKC. When the bearing temperature arrive set-point the machine can start protection function.

7.19. Brake part:

- a. Brake unit to adopt pneumatic brake.
- b. Brake capacity: 30Kg-m.

7.20. Tension balancer

- a. The equipment is installed in front of the forming platform, so as to balance the tension of all cables of the same layer.
- b. The component is composed of an independent pulley, the diameter of pulley is $\Phi 225\text{mm}$, and 1+6 structure. It is capable of generate different speed/braking according to their locations.
- c. The braking pulley $\Phi 315\text{mm}$ is arranged in 1 group, 5kg magnetic powder brake is adopted.
- d. The system guarantees that all cables/ strings of the same layer have the same tension.

7.20. Rotation die stand

The second die automatically rotate through independent AC motor and synchronous wheel rotation.

7.21. Spare parts:

a. Carbon brush:	big 2 pcs, small 2pcs
b. Bow slice guide wheel	2PCS
c. Tool box + tool	1BOX
d. Hand grease gun	1 PCS
e. Straight screwdriver	1 PCS
f. Cross screwdriver	1 PCS
g. Monkey wrench	1 PCS
h. Fuse	5PCS

8. Others:

Seller Provide information:

8.1.Foundation drawing for machine

8.2. Electrical drawing

8.3. Manual for installation and maintenance.

Buyer provide information:

- a. Foundation construction is prepared by the buyer .
- b. Power supply wire of machine is prepared by the buyer.

Net weight: 12,500kgs

Total weight : 13,500kgs

Machine size: 6030mm L × 2280mm W × 2280mm H

Packing size: 6200mm L × 2500mm W × 2500mm H

9. Machine photo (only for reference)



Φ1600mm type double twist stranding machine**(Double bows)****汉鼎报价: 260 万****2. Introduction of application**

This machine is suitable for stranding Copper wire, PVC wire, Al wire and below 7-19-37(extra pay off can produce up to 37 wires) stands conductor, mainly used for sectional area for copper 150 mm², AL 240mm².

This equipment is dedicated to twist Aluminum and Copper round compress conductor. This project contains external rotation pressure die structure, and provide the required traction used for compress conductor, when the conductor compress, the take-up part of bundling machine will obtain, and have a special line way to reduce torque between rotating traction wheel and take-up bobbin, can ensure that there is a good round conductor.

2.Main performance features:

- 2.1 Double bow technique is adopted
- 2.2 Wireless signal transmission
- 2.3 Excavation free foundation and installation
- 2.4 The space is very small
- 2.5 Ultra short cable channel
- 2.6 Reliable slip ring system
- 2.7 Hydraulic up and down discharger
- 2.8 Automatic lubrication system
- 2.9 Automatic bearing temperature sensing system
- 2.10 Servo motor energy saving 20%
- 2.11 Advanced aerodynamic design
- 2.12 Servo motor and control system
- 2.13 NSK bearing, high tensile strength
- 2.14 Installation of smart meter in control cabinet

3. Equipment composition

No.	Description	Qty.	Unit	Function	Remark
1	(Coiler) Barrel type pay off	8	Heads	Pay off	
2	Wire inlet device	1	PC	Wire collection	
3	Tension balance	1	Set	Balance tension	
4	1600mm double twist stranding machine	1	Set	Wire stranding	
5	Rotation die stand	1	Set	Conductor compact	
6	PLC type main electric cabinet & control system	1	Set	System control	
7	Automatic lubrication system	1	Set	lubrication	
8	Automatic bearing temperature sensing system	1	Set	temperature sensing	
9	Air condition	1	Set	Air cooled the cabinet	
8	Mould	1	Set	Conductor finish size	For one size
9	Painting: A. RAL5015 B. RAL7035 C. RAL6017 D.RAL5023 E. customer specified				
10	Operation direction: A: from left to right ; B: from right to left				
11	Installation length of the production line see installation schematic diagram				

4. Brand of main accessories:

- 4.1. Main Motor: DC motor Pioneer brand
- 4.2. DC controller: Parker brand
- 4.3. PLC: SIEMENS S7-1200 series
- 4.4. Touch screen: SIEMENS TP-1200-12 inch

- 4.5. Bearing: Adopt Japanese NSK brand
- 4.6. Bow: Carbon fiber (TAIWAN)
- 4.7. Low voltage electric components: Schneider brand.

5. Main parameter

- 5.1. Wire diameter of wire inlet: $\Phi 1.5\text{mm}-4.8\text{mm}$ /7cores(Copper wire) /50mm²
 $\Phi 1.5\text{mm}-4.8\text{mm}$ /37cores(Copper wire) /150mm²
 $\Phi 1.5\text{mm}-5.0\text{mm}$ / 7 Cores (AL wire) /70mm²
 $\Phi 1.5\text{mm}-5.0\text{mm}$ / 7 Cores (AL wire) /240mm²
 $\Phi 2.0\text{mm}-6.5\text{mm}$ /2-4 cores (2-4 cores 1.0mm²-10.0mm²)
- 5.2. Conductor section area of stranding: 16-150mm² (Copper conductor) 37heads pay off
16.0-240mm² (AL conductor) 37 heads pay off
- 5.3. Lay range (Copper and Aluminum) : 50-600mm. Thumb wheel type setting automatic calculation and adjustment.
- 5.4. Wire diameter of stranding:
- 5.4.1. Stranding section (flexible strands): 10-70mm²,
- 5.4.2. Stranding section (1 + 6): 10-50mm²
- 5.4.3. Compacted copper: 16-150mm² (with 37 heads pay off)
- 5.4.4. Compacted aluminum: 16-240mm² (with 37 heads pay off)
- 5.4.5. Maximum line speed: 150m/min
- 5.4.6. Maximum compression pressure coefficient: 13%
- 5.5. Direction of twisting: S.Z. (Left and right twisting direction can be selected).
- 5.6. Speed of rotation body: 450 RPM/MAX. (900 Twist), normal working speed:300RPM (600 twist);
- 5.7. Power:
- Main frame: 90KW DC Motor+ digital control
- Capstan: 55KW DC Motor +digital control
- Spool tension: 18.5KW DC Motor+ digital control
- Traverse unit: 1.5KW servo Motor

- Rotation die stand: 2.2KW servo Motor
- 5.8. Spool drum size: Max 1600mm
- Spool load capacity: Max 8000KG
- 5.9. Power source: 380V, 50Hz(or depend on customer's requirement)
- 5.10. Drum loading and unloading:
- Type: Motor shaftless type.
- Bobbin load /unload: by electric lifting platform control
- 5.11. Low noise design: Main machine noise is insulated by safety cover, noise below -80db.
- 5.12. Brake: Adopt pneumatic brake.
- 5.13. Control: PLC system control.
- 5.13.1. Servo control.
- 5.13.2. Wire-broken stop indicate, and own pneumatic clamping device. It avoids to break wire during producing wire or threading wire on machines.
- 5.13.3. Meter reached will be stop.
- 5.13.4. Safety limit control.
- 5.13.5. Lighting control inside machine.
- 5.14. Used air pressure: 6Kg/cm².
- 5.15. Add a side door at back of safety cover to convenient maintenance.
- 5.16. Add pressure wheel at the meter counting wheel.
- 5.17. Carbon brush connection to use the cable.

6. Equipment content

- | | |
|--------------------------------------|-------|
| 6.1. Wire inlet | 1 set |
| 6.2. Base of the inlet wire | 1 set |
| 6.3. Synchronous transmission system | 1 set |
| 6.4. Power | 1 set |
| 6.5. Part of rotation body | 1 set |
| 6.6. Bow part | 1 set |

6.7. Cradle part	1 set
6.8. Wire though die	1 set
6.9. Traverse part	1 set
6.10. Capstan part	1 set
6.11. Adjustment part of spooling tension	1 set
6.12. Suitable spooling tension adjustment part	1 set
6.13. Bobbin load/unload part	1 set
6.14. Stranding pitch setting part	1 set
6.15. Electric control part	1 set
6.16. Safety cover part	1 set
6.17. Lubrication method	1 set
6.18. Brake part	1 set
6.19. Spare part	1 set
6.20. Compression device	1 set

8. Specification:

7.1. basket pay off (8pcs)

max. can with 37 pcs

- 7.1.1 control type: pneumatic adjust the tension;
- 7.1.2 loading /unloading: fork lift;
- 7.1.3 lubrication type: grease lubrication;
- 7.1.4 the buyer should provide the drawing of basket.



The pay off for reference

7.2. Die holder

Single seat, 37A (1 + 6+12+18) and inlet orifice plate. Max. 37 pcs.

The wear-resistant ceramic eye is used to pass the wire to reduce the elongation and strain in wire production.



7.3. Power transmission system:

- a. Main motor transmit belt by synchronous belt.
- b. It transmit on timing with toothed belt between the transmission shaft and main shaft.

7.4. Servo motor driver:

- a. Main frame: 90KW DC Motor+ digital control
- b. Capstan: 55KW DC Motor +digital control
- c. Spool tension: 18.5KW DC Motor+ digital control
- d. Traverse unit: 1.5KW servo Motor
- e. Rotation die stand: 2.2KW servo Motor

7.5. Rotation body part:

The main shaft has been treated by anneal, to eliminate stress. So it is suitable for operation for long time without deformation.

7.6. Bow part:

- a. Material: Carbon fiber blow (Taiwan Lian).
- b. Wire guide rollers on the blow wire are u type, Outer diameter is 49mm, Inner groove diameter is 28mm, channel curve is R10, groove depth is 10.5mm, groove width is 20L.
- c. Loading and unloading bobbin with protection switch

7.7. Cradle part:

- a. Cradle is easy to loading and unloading, the operating and leading wire working in the front position.
- b. Cradle is design and produce a unit, it have been annealed treatment, reduce the deformation.

7.8. Guide die: die material is tungsten.

7.9. Traverse part:

- a. Traverse motor: 1.5KW servo motor and line speed is synchronously controlled by inverter
- b. Transmission: Ball screw(Taiwan HIWIN).
- c. Traverse pitch: Digital setting.

7.10. Capstan part:

- a. Power: 55KW Servo Motor
- b. Type: U type, 5×6 groove, double capstan wheel.
- c. Wheel : Out diameter is 500mm, bottom diameter is 460mm, groove is R10 type. groove surface is chromium coating.

7.11. Adjustment part of spooling tension:

- a. Tension control: 18.5KW Motor + digital control
- b. Tension range: 2-20Kg.

7.12. Diameter of take-up bobbin (Please provide the following dimensions): (Special bobbin size can be based on your company bobbin size to design)

Outer diameter (ΦD)	Hole diameter (Φd)	Outer width (L1)	Inner width (L2)	Location hole	Center distance	Remark
1600						

(according to your company bobbin size)

7.13. Bobbin load/unload part:

- a. Type: Motor open shaft, spring jacking shaft, with limited safety switch.
- b. Bobbin load/unload: Bobbin load/unload by electrical lifting platform control.
- c. Power of lifter: 1/2HP Worm gear reducer, transmission screw lifting platform.
- d. Safety control: Safety limit of the upper and down limit by detection switch control, and add safety shield.

7.14. Stranding pitch setting part:

- a. Pitch range: 50-600mm.
- b. Data can be set on the operation panel, PLC automatic calculate to control motor runs in synchronization status.

7.15. Electric control system.

7.15.1. Design and wiring of the electric control box.

7.15.2. To adopt electrical products for first class product.

7.15.3. Machine action indicate content:

- a. Main motor On, Off switch and indicator light.
- b. Running indicator light of main motor
- c. Wire-broken stop indicate
- d. Meter reached will be stop
- e. Electromagnetic type brake, the time electrical instrument control.
- f. Lighting control inside machine
- g. System is digital control.

7.16. Safety cover part.

- a. Low noise design: Main machine is insulated by cover. Noise is lower than -80db outside of the cover.
- b. There are some limit switches in of safety door: machine is safety locked.
- c. Internal heat dissipation: 0.65Kw low-speed motor (two sets) , the hot air is circulation outside air.

7.17. Lubrication method:

a. Bearing: add high-speed grease regularly, some can be added oil automatically

b. Gear: fill grease with oiler

7.18. Automatic bearing temperature sensing system

Main bearing, induct the bearing temperature by imported thermocouple, 4 measure temperature point. Temperature control table adopts Japan RKC. When the bearing temperature arrive set-point the machine can start protection function.

7.19. Brake part:

a. Brake unit to adopt pneumatic brake.

b. Brake capacity: 30Kg-m.

7.20. Tension balancer

a. The equipment is installed in front of the forming platform, so as to balance the tension of all cables of the same layer.

b. The component is composed of an independent pulley, the diameter of pulley is $\Phi 400\text{mm}$, and 1+6+12+18 structure. It is capable of generate different speed/braking according to their locations.

c. The braking pulley $\Phi 400\text{mm}$ is arranged in 1 group, 5kg magnetic powder brake is adopted.

d. The system guarantees that all cables/ strings of the same layer have the same tension.

7.20. Rotation die stand

The second die automatically rotate through independent AC motor and synchronous wheel rotation.

7.21. Spare parts:

a. Carbon brush:	big 2 pcs, small 2pcs
b. Bow slice guide wheel	2PCS
c. Tool box + tool	1BOX
d. Hand grease gun	1 PCS
e. Straight screwdriver	1 PCS
f. Cross screwdriver	1 PCS
g. Monkey wrench	1 PCS
h. Fuse	5PCS

8. Others:**Seller Provide information:**

8.1.Foundation drawing for machine

8.2. Electrical drawing

8.3. Manual for installation and maintenance.

Buyer provide information:

a. Foundation construction is prepared by the buyer .

b. Power supply wire of machine is prepared by the buyer.

Net weight: 21,500kgs

Total weight : 22,500kgs

Machine size: 9800mm L × 2980mm W × 2980mm H

Packing size: 10800mm L × 3100mm W × 3100mm H

9. Machine photo (only for reference)



SW-630 PLC Cantilever type single twist cabling line

汉鼎报价: 65.8 万

1. Application:

This machine set is applicable to the high-speed cable forming and twisting of all kinds of power cords, PVC and PE cables, Category 5, 6, and 7 data cables, telecommunication cables, and other special-purpose wires and cables. It can also be used for central taping and side taping.

2. Performance and features:

This series of equipment composed of the PLC program + speed regulation by frequency conversion control + pneumatic control. The cantilever-type cabling & twisting motion, the bobbin capstan take-up motion and the bobbin reciprocating traverse motion, by mechanical motion and electrical motion dual control, to ensure the unit under four condition of the start-up, normal operation, slow to stop and emergency stop etc., with good synchronization performance, ensure the lay always stable and small errors. The cabling series production line design original, leading technology, it is preferred equipment for cabling and wrapping serial production.

PLC signal transmission

The space is very small

Ultra short cable channel

Automatic refueling lubrication system

Automatic bearing temperature sensing system

Energy saving of variable frequency motor 20%

The whole machine adopts individual motor control

Advanced aerodynamic design

Variable frequency motor and control system

NSK bearing, high tensile strength

Excavation free foundation and convenient installation

The smart meter is installed in the control cabinet

3. Equipment composition

No.	Description	Quantity	Remarks
1	Ø560/630 motor driving pay off (frame type) 2 sets for: Insulated Wire 0.5-4.0mm ² 1 set for Drain Wire For tin Copper Conductor	3 sets	
	Ø560/630 motor driving pay off (Cantilever type)	3 sets	Optional
2	Die holder	1 set	
3	Pneumatic wire clamping device	1 set	
4	Central type taping machine	2 sets	
5	Ø630mm cantilever type single twister	1 set	
6	Main electric cabinet	1 set	
7	Air conditioner for cabinet	1 set	
8	Filler stand	1 set	8 heads
9	Lubrication system for Single twist	1 set	
10	Lubrication system for taping machine	1 set	
11	Automatic bearing temperature sensing system	1 set	
12	Forming mould	1 set	Commissioning
13	Spare tools	1 set	Production

14	Coating: a. RAL5015 b. RAL7035 c.RAL6017 d. RAL5023 e. sample color provided by the customer or based on customer demand.
15	Operation direction: A. From left to right; B. From right to left
16	Bobbin of 560 and 630mm, the customer provide the bobbin drawing.

4. Major assemblies brand:

- 4.1. AC motor: Siemens brand
- 4.2. Inverter: Siemens brand
- 4.3. Main Bearing: NSK brand
- 4.4. Low-voltage apparatus: Schneider brand
- 4.5. PLC: S7-1200 Siemens brand
- 4.6. Touch screen: KTP-1200-12inch
- 4.7. Three-phase voltage: 380V 50Hz
- 4.8. Single-phase voltage: 220V 50Hz
- 4.9. Intelligent electricity meter: install the total intelligent electricity meter of the whole production line

5. Main parameters

- 5.1. Applicable core wire: Ø0.6-Ø4.0mm
(flexible insulation wire: 0.50mm²-4.0mm²)
(stranded wire: Max. 2.5mm²)
- 5.2. Twisting output diameter: MAX. Ø15.0mm
- 5.3. Range of cable lay: 20mm-120mm stepless regulation
- 5.4. Take-up bobbin diameter:

BOBIN	FLANGE SIZE	BARREL SIZE	OVERALL WIDTH	TRAVERSE RANGE	BORE SIZE	LOADING WEIGHT
630	630	315	475mm	415mm	127mm	500KGS

- 5.5. Tape specification:



Pore diameter:	Ø76mm
Tape diameter	Ø400mm
Width range:	10mm-30mm.

5.6. Applicable materials: Cotton paper, Nylar tape, Aluminum foil tape, Polyester tape.

5.7. Rotation speed of taping machine: Max. 2500 rpm
2000rpm when production

5.8. Rotation speed of single-twisting machine:

Max. 900rpm (dynamic balance)

650rpm when production

5.9. Direction: left, right ("S", "Z"); can be reversed

6.Equipment configuration

6.1. Φ 560/630mm Frame type motorized pay off

Φ 560/630mm Frame type motorized pay off

1. Motor power: 2.2KW, AC motor +worm gear reducer
2. Inverter: 2.2KW
3. Contactor: Schneider
4. Brake: Adopt pneumatic brake
5. Tension control: it tracks tension control automatically. It can achieve constant tension through the feedback signal sent by pneumatic tension shelf when pay off t to avoid core wire or copper wire deform when the wire is pulled.
6. Load and unload bobbin: Motor movements, safe and quick, pneumatic clamping position setting
7. Line speed: Max. 200m/min;
8. Pneumatic material: Adopt Taiwan AIRTAC brand
9. Braking resistance: special braking resistance for frequency conversion is adopted.
10. Guide wheel diameter: Φ 200mm
11. Equipped with safety fence.
12. Proximity switch is used for safety protection.

Tension specification:

- 1) Mechanical form
- 2) Guide wheel diameter: Φ 200mm, aluminum alloy material, guide wheel groove surface oxidation treatment
- 3) Number of guide wheel pieces: piece + piece
- 4) Tension range: 10 ~ 120N, pneumatic provides constant tension, and the tension is manually adjusted by the precision pressure regulating valve
- 5) Adaptive wire diameter: 0.50mm²-4.0mm²
- 6) Broken wire detection: limit contact detection, broken wire shutdown





Frame type pay off

Optional: Ø560/630 motor driving pay off (Cantilever type)

1.1	Bobbin size	PN560-630
1.2	Max speed	200m/min
1.3	Speed control	Automatically control by inverter
1.4	Loading/unloading	Motor driving with electric control
1.5	Clamping/releasing	pneumatic
1.6	Motor	2.2KW inventor motor
1.7	Motor control	2.2 KW inventor
1.8	Brake	pneumatic brake
1.9	Bobbin lifting up and down limit positions control protection.	
1.10	Bobbin close and open limit positions control protection.	



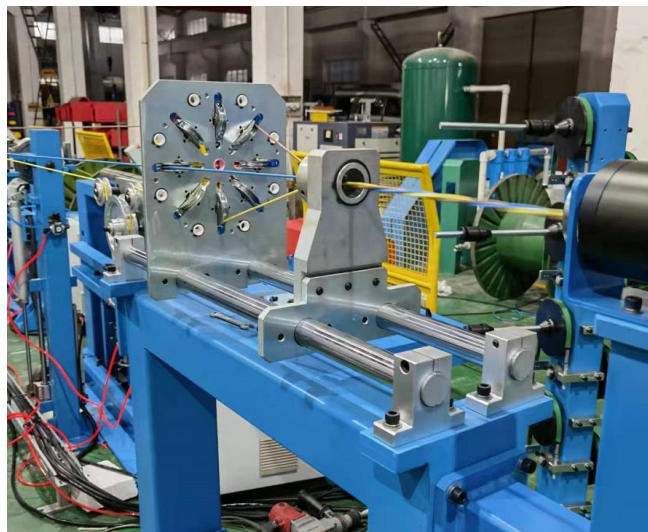
Cantilever type

Note:

1. Frame type pay off: more stronger of main structure, more stable when running, but price higher than cantilever type;
2. Cantilever type pay off: sample design and cheaper than frame type.

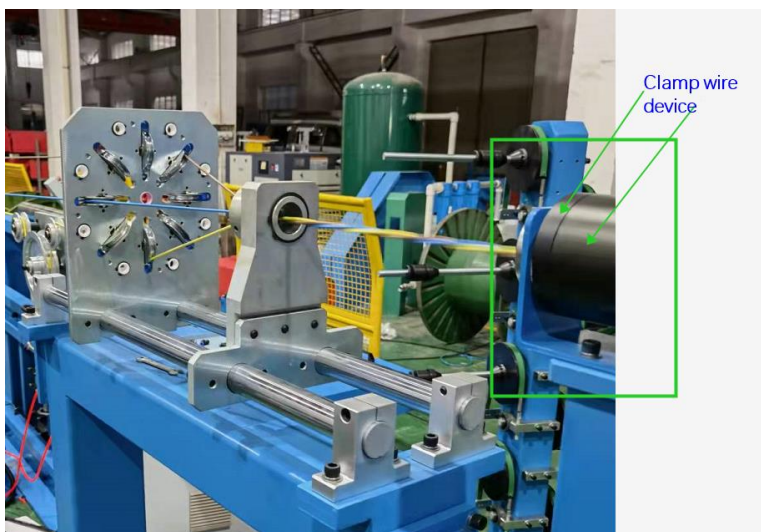
6.2. Die holder

Two-seater type, 6B (1+6) and inlet ceramic perforated plate.


6.3. Vmc-40 pneumatic wire clamping device

- 6.3.1 Automatic clamping of broken wire.
- 6.3.2 Start automatic release.
- 6.3.3 Installed at the rear end of die holder.
- 6.3.4 Maximum clamp cable outer diameter Φ 40mm

6.3.5 Air bag 360 ° clamping is adopted to avoid cable clamping injury.



6.4. CT-500 Taping machine (2 sets)

- | | |
|---|---|
| 6.4.1. AC motor: | 4.0KW |
| 6.4.2. Inverter: | 4.0KW |
| 6.4.3. Tension of taping: | 2.2KW, automatically tracking tension |
| 6.4.4. Brake of taping: | 5KG single plate brake |
| 6.4.5. Taping pitch: | regulated by PLC |
| 6.4.6. Tape direction: | "S" or "Z", can be arbitrarily transformed |
| 6.4.7. Rotation speed: | Max. 2500 rpm
2000 rpm when production (based on tape materials) |
| 6.4.8. Taping material: | |
| Bore diameter: | Φ 76mm, |
| Disk diameter: | Φ 400mm |
| width range: | 8mm-30mm |
| Applicable materials: Cotton paper, Nylar tape, Aluminum foil tape, Polyester tape. | |
| 6.4.9. PVC/PE cable, power cable, coaxial cable multiple sets of synchronous tape. | |
| 6.4.10. Belt breaking protection: automatic shutdown after belt breaking. | |



6.5. SW-630 PLC Cantilever type single twist

6.5.1. Main AC motor: 15KW AC VF motor (with overheating temperature sensing device)

6.5.2. Frequency converter: 15KW

6.5.3. Main brake: 1 set

6.5.4. Take up AC motor: 15KW AC VF motor (with overheating temperature sensing device)

6.5.5. Frequency converter: 15KW

6.5.6. Take up brake: 1 set

6.5.7. Traverse way: Servo motor 0.4KW drive ball screw wire, before and after the limit switch, and can achieve fast forward and backward bobbin function.

6.5.8. Traverse pitch setting: Through the PLC set the inner width of the left limit of the cable tray is limited, while setting the cabling cable outer diameter, automatic tracking.

6.5.9. Bobbin lock: manually locked

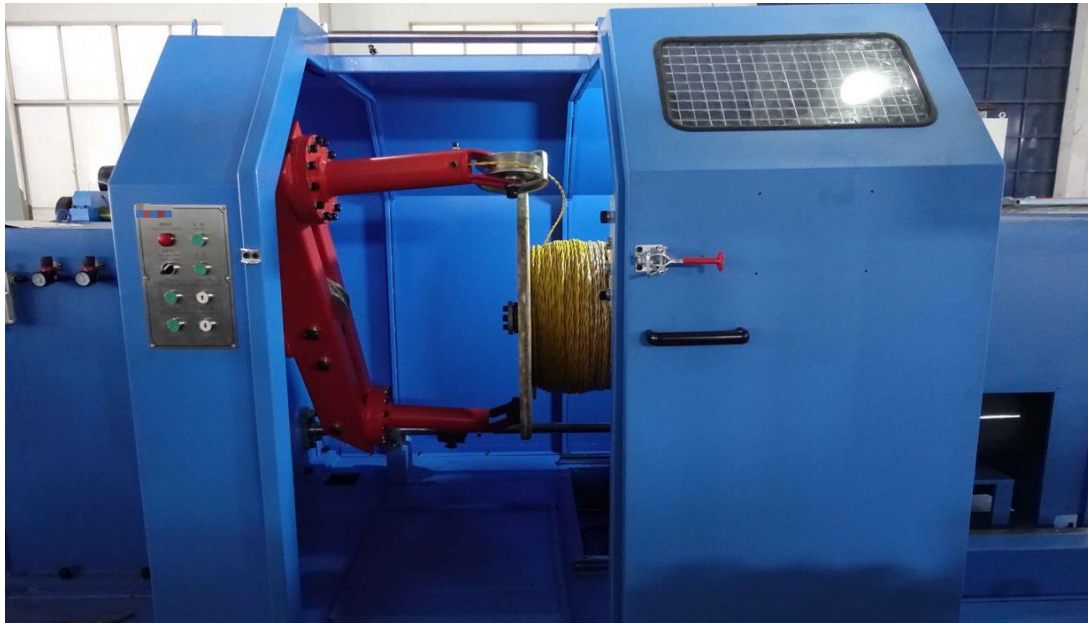
6.5.10. Bobbin lifting: Electric motor (1.5KW) lifting, reducer

6.5.11. Main Bearing: international brand NSK, Japan

6.5.12. Precision ball screw adopts international brand Taiwanese silver, AIWIN model (R25)

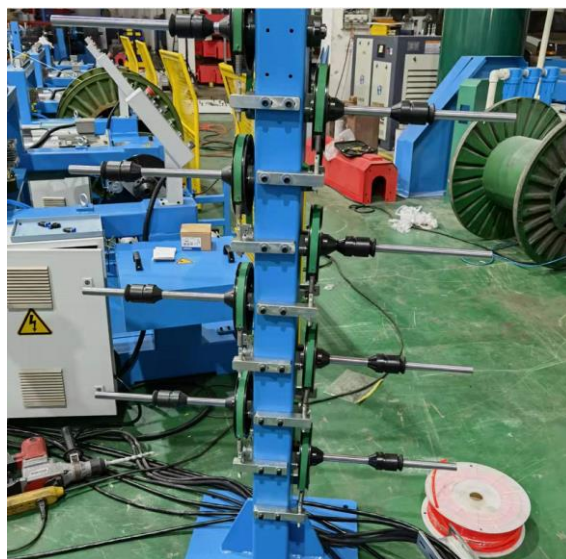
6.5.13. The precision guideway adopts the international brand Taiwanese silver AIWIN model (HGW25)

6.5.14. Safety control: upper and lower limit safety, limit detection switch control.



6.6. Filling device

- 6.6.1 Number of filling heads: 8 pcs
- 6.6.2 Use spool size Inner dia. ϕ 20, outer dia. ϕ 250mm, height 300mm
- 6.6.3 Type: through shaft type, 4 shafts arranged up and down
- 6.6.4 Tension control mechanical flat belt type, manual adjustment of spring tension.
- 6.6.5 Spool fixed manual quick nut with jacking sleeve
- 6.6.6 Loading type: manual structure



6.7. Main electrical control system (with air condition)

- 6.7.1. Siemens HMI-12 inch can be used to display and set up parameters such as cable lay, speed,

and meter count. It can also display common failures and realize a friendly human-computer interaction;

6.7.2. The taping machine and single-twisting main machine can be both used individually and combined for action.

6.7.3. S7-1200 Siemens programmable controller and rotary encoder;

6.7.4. Meter-counting mode: in-machine meter counting, touch screen display;

6.7.5. In-place broken wire warning device for meter counting;

6.7.6. Limit unit control for safety in operation.

6.8. Safety cover

6.8.1 Low noise design: fully enclosed acoustic enclosure, DB-80 dB or less,

6.8.2 The whole machine adopts sound insulation board and galvanized punching diaphragm.

6.8.3 Limit switch of safety door: safety interlock shutdown of opening and closing door.

6.8.4 Internal heat dissipation: 2 pcs 300mm-4P fans for air circulation heat exchange.

6.9. Automatic lubrication system for single twister

6.9.1 For the bearing part, some automatic oiling systems, and some regular high-speed butter;

6.9.2 Set the operation time node, take the initiative to refuel, and the refueling time can be set freely;

6.9.3 One set of cantilever spindle, one set of take-up spindle and guide rail wire traverse screw.

6.10. Automatic lubrication system for tapping machine

6.10.1 For the bearing part, some automatic oiling systems, and some regular high-speed butter;

6.10.2 Set the operation time node, take the initiative to refuel, and the refueling time can be set freely;

6.11. Automatic bearing temperature sensing system

The main shaft bearing senses the bearing temperature through the thermocouple temperature measuring point. The Siemens temperature control module is used for temperature control. When the bearing reaches the set temperature, the protection function can be started automatically.

6.12.Brake part

6.12.1 Pneumatic brake is adopted

6.12.2 Take up brake 1 set

6.12.3 Cantilever type single twister brake 1 set

6.12.4 Installed at both side of the spindle.

7. Pictures (only for reference)





SW-1250 Frame type single twist cabling line

汉鼎报价：128 万元



3. Application:

This machine set is applicable to the high-speed cable forming and twisting of all kinds of power cords, PVC and PE cables, Category 5, 6, and 7 data cables, telecommunication cables, and other special-purpose wires and cables. It can also be used for central taping and side taping.

4. Performance and features:

This series of equipment composed of the PLC program + speed regulation by frequency conversion control + pneumatic control. The cantilever-type cabling & twisting motion, the bobbin capstan take-up motion and the bobbin reciprocating traverse motion, by mechanical motion and electrical motion dual control, to ensure the unit under four condition of the start-up, normal operation, slow to stop and emergency stop etc., with good synchronization performance, ensure the lay always stable and small errors. The cabling series production line design original, leading technology, it is preferred equipment for cabling and wrapping serial production.

PLC signal transmission

The space is very small

Ultra short cable channel

Automatic refueling lubrication system

Automatic bearing temperature sensing system

Energy saving of variable frequency motor 20%

The whole machine adopts individual motor control

Advanced aerodynamic design

Variable frequency motor and control system

NSK bearing, high tensile strength

Excavation free foundation and convenient installation

The smart meter is installed in the control cabinet

3. Equipment composition

No.	Description	Quantity	Remarks
1	Ø560/630 motor driving pay off (frame type)	7 sets	
	Ø560/630 motor driving pay off (Cantilever type)	7 sets	Optional

2	Die holder	1 set	
3	Pneumatic wire clamping device	1 set	
4	Central type taping machine	2 sets	
5	Longitudinal Taping machine	1 set	
6	Ø1250mm Frame type single twister	1 set	
7	Main electric cabinet	1 set	
8	Air conditioner for cabinet	1 set	
9	Filler stand	1 set	8 heads
10	Lubrication system for Single twist	1 set	
11	Lubrication system for taping machine	1 set	
12	Automatic bearing temperature sensing system	1 set	
13	Forming mould	1 set	Commissioning
14	Spare tools	1 set	Production
15	Coating: a. RAL5015 b. RAL7035 c.RAL6017 d. RAL5023 e. sample color provided by the customer or based on customer demand.		
16	Operation direction: A. From left to right; B. From right to left		
17	Bobbin of 560 and 630mm, the customer provide the bobbin drawing.		

5. Major assemblies brand:

5.1. AC motor:	Siemens brand
5.2. Inverter:	Siemens brand
5.3. Main Bearing:	NSK brand
5.4. Low-voltage apparatus:	Schneider brand
5.5. PLC: S7-1200	Siemens brand
5.6. Touch screen:	KTP-1200-12inch
5.7. Three-phase voltage:	380V 50Hz

5.8. Single-phase voltage: 220V 50Hz

5.9. Intelligent electricity meter: install the total intelligent electricity meter of the whole production line

5. Main parameters

5.1. Applicable core wire: Ø0.6-Ø5.0mm
(flexible insulation wire: 0.50mm²-6.0mm²)
(stranded wire: Max. 6.0mm²)

5.2. Twisting output diameter: MAX. Ø30.0mm

5.3. Range of cable lay: 30mm-600mm stepless regulation

5.4. Take-up bobbin diameter: Ø1250mm

5.5. Tape specification:

Pore diameter: Ø76mm

Tape diameter Ø500mm

Width range: 10mm-40mm.

5.6. Applicable materials: Cotton paper, Nylar tape, Aluminum foil tape, Polyester tape.

5.7. Rotation speed of taping machine: Max. 2500 rpm
2000rpm when production

5.8. Rotation speed of single-twisting machine:
Max. 500rpm (dynamic balance)
400rpm when production

5.9. Direction: left, right ("S", "Z"); can be reversed

6. Equipment configuration

6.1. Φ 560/630mm Frame type motorized pay off

Φ 560/630mm Frame type motorized pay off

1. Motor power: 2.2KW, AC motor +worm gear reducer

2. Inverter: 2.2KW

3. Contactor: Schneider
4. Brake: Adopt pneumatic brake
5. Tension control: it tracks tension control automatically. It can achieve constant tension through the feedback signal sent by pneumatic tension shelf when pay off t to avoid core wire or copper wire deform when the wire is pulled.
6. Load and unload bobbin: Motor movements, safe and quick, pneumatic clamping position setting
7. Line speed: Max. 200m/min;
8. Pneumatic material: Adopt Taiwan AIRTAC brand
9. Braking resistance: special braking resistance for frequency conversion is adopted.
10. Guide wheel diameter: Φ 200mm
11. Equipped with safety fence.
12. Proximity switch is used for safety protection.

Tension specification:

- 1) Mechanical form
- 2) Guide wheel diameter: Φ 200mm, aluminum alloy material, guide wheel groove surface oxidation treatment
- 3) Number of guide wheel pieces: piece + piece
- 4) Tension range: 10 ~ 120N, pneumatic provides constant tension, and the tension is manually adjusted by the precision pressure regulating valve
- 5) Adaptive wire diameter: 0.50mm²-6.0mm²
- 6) Broken wire detection: limit contact detection, broken wire shutdown





Frame type pay off

Optional: Ø560/630 motor driving pay off (Cantilever type)

1.1	Bobbin size	PN560-630
1.2	Max speed	200m/min
1.3	Speed control	Automatically control by inverter
1.4	Loading/unloading	Motor driving with electric control
1.5	Clamping/releasing	pneumatic
1.6	Motor	2.2KW inventor motor
1.7	Motor control	2.2KW inventor
1.8	Brake	pneumatic brake
1.9	Bobbin lifting up and down limit positions control protection.	
1.10	Bobbin close and open limit positions control protection.	



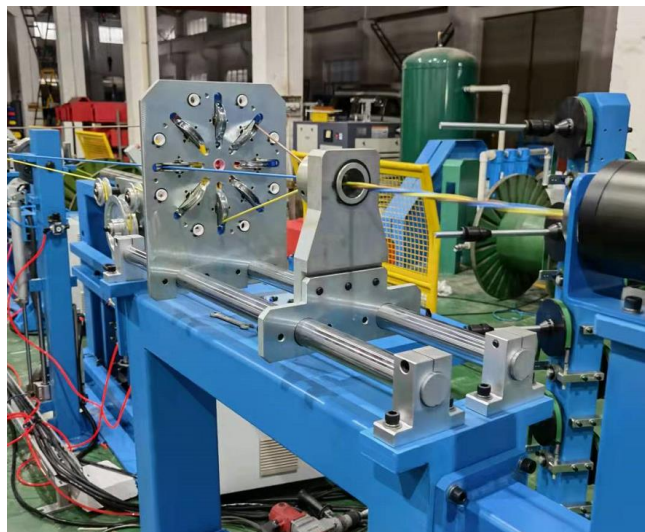
Cantilever type

Note:

1. Frame type pay off: more stronger of main structure, more stable when running, but price higher than cantilever type;
2. Cantilever type pay off: sample design and cheaper than frame type.

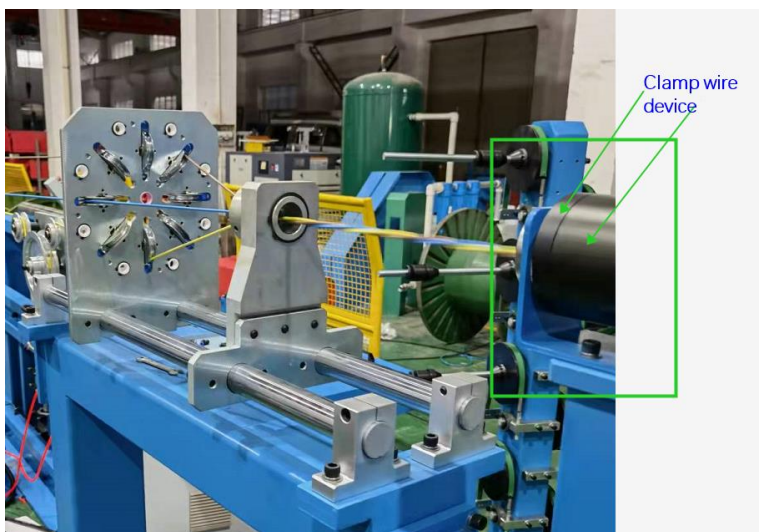
6.2. Die holder

Two-seater type, 6B (1+6) and inlet ceramic perforated plate.


6.3. Vmc-40 pneumatic wire clamping device

- 6.3.1 Automatic clamping of broken wire.
- 6.3.2 Start automatic release.
- 6.3.3 Installed at the rear end of die holder.
- 6.3.4 Maximum clamp cable outer diameter Φ 40mm

6.3.5 Air bag 360 ° clamping is adopted to avoid cable clamping injury.



6.4. CT-500 Taping machine (2 sets)

- | | |
|---|---|
| 6.4.1. AC motor: | 4.0KW |
| 6.4.2. Inverter: | 4.0KW |
| 6.4.3. Tension of taping: | 2.2KW, automatically tracking tension |
| 6.4.4. Brake of taping: | 5KG single plate brake |
| 6.4.5. Taping pitch: | regulated by PLC |
| 6.4.6. Tape direction: | "S" or "Z", can be arbitrarily transformed |
| 6.4.7. Rotation speed: | Max. 2500 rpm
2000 rpm when production (based on tape materials) |
| 6.4.8. Taping material: | |
| Bore diameter: | Φ 76mm, |
| Disk diameter: | Φ 500mm |
| width range: | 10mm-40mm |
| Applicable materials: Cotton paper, Nylar tape, Aluminum foil tape, Polyester tape. | |
| 6.4.9. PVC/PE cable, power cable, coaxial cable multiple sets of synchronous tape. | |
| 6.4.10. Belt breaking protection: automatic shutdown after belt breaking. | |
| 6.4.11. With 2-step platform. | |



6.5. LT-500ME Longitudinal tapping machine

6.5.1 Applicable tape wrapping disc size: Outer Diameter Φ 250 - Φ 500, inner hole Φ 76mm; Width: 10-40mm, Thickness: 0.50mm

6.5.2 The tension is controlled by 2.5kg magnetic powder.

6.5.3 Belt break shutdown function.



6.6 1250 Frame type Single Twisting Machine

6.6.1. Main motor: 45KW, AC motor (with overheating temperature sensing device)

6.6.2. Take-up motor: 45KW, AC motor (with overheating temperature sensing device)

6.6.3. Main braking: DBG-105 air-pressure brake

6.6.4. Bobbin clamping: electric

6.6.5. Pay off bobbin: 560mm to 630mm supplied by customers

6.6.6. Take up bobbin: 1250mm

6.6.7. Load and unload bobbin adopt separate hydraulic pressure, speed is adjustable.

6.6.8. Suitable for single core: 0.6mm-5.0mm

Max cable diameter after cabling: $\Phi 30\text{mm}$.

6.6.9. Twisting range: 30-600mm, stepless regulation.

6.6.10. Traverse: motor traverse, servo motor: 1.5KW

6.6.11. Max Designed speed: 500RPM,
normal working speed: 300-400RPM

6.6.12. The size of take-up bobbin designs by GB or the requirements of factory.

6.6.13. Adopt pneumatic opening door, open the door manually.

6.6.14. Bobbin loading and unloading part:

a. Type: motor open shaft, screw top shaft

b. Both the left and right top shafts have detection protection switches

c. Upper and lower shafts: the upper and lower shafts of the electric lifting platform.

d. Lifting power: hydraulic lifting.

e. Safety control: upper and lower limit safety limit detection switch control, and install safety

bezel

6.6.15. Safety cover part:

a. Low noise design: fully enclosed soundproof cover, DB-80 decibel below

b. The limit switch of the safety door: the door is safely interlocked

c. Internal heat dissipation: 4 low-speed motors of 0.65KW, for air circulation heat exchange.

6.6.16. Automatic lubrication system:

a. Bearing part, part of the automatic refueling system, part of the regular high-speed butter

b. Gear part, regularly inject oil into the oil pot

c. Spindle bearing, the bearing temperature is detected by the imported thermocouple, the temperature measuring point is 4 segments, the temperature control table adopts Japanese RKC, and the protection function can be automatically activated when the bearing reaches the set temperature.

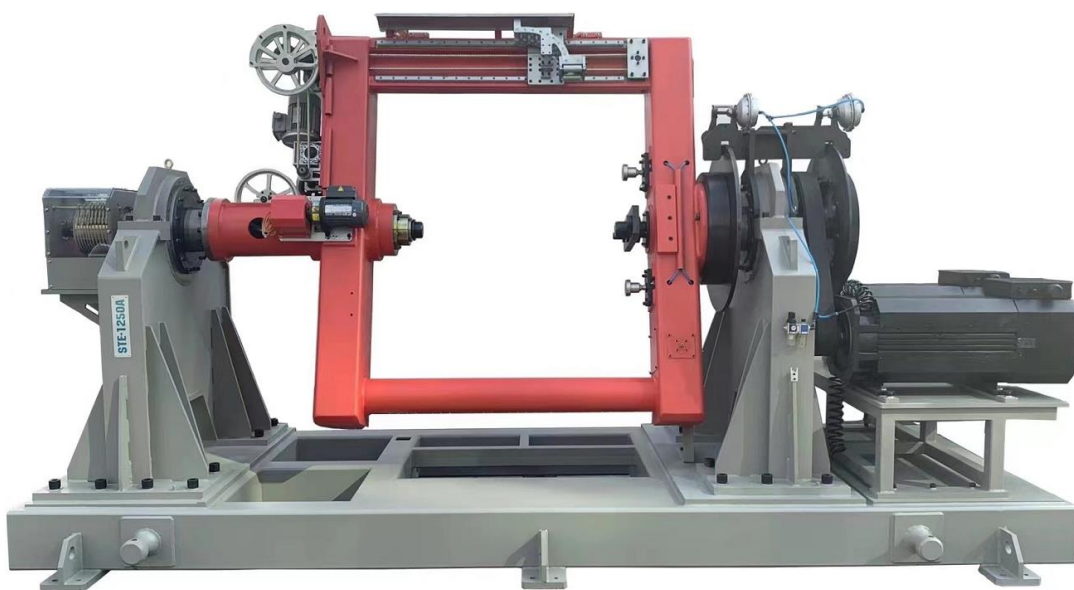
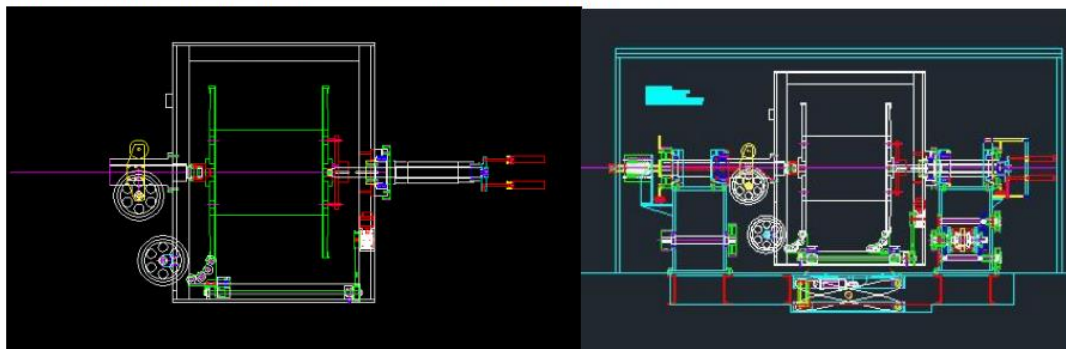
6.6.17. Brake section:

- a. The brakes use pneumatic brakes
- b. Braking ability: 30KG-M.
- c. Braking method: installed at both ends of the spindle, brake 2 units

Note: The Advantage of Frame type single twister laying up machine

Frame type:

- 1, with big capstan, ok for big size like 8mm diameter cable. 牵引轮大, 适合大线经成缆。
- 2, use pintle to clamp the bobbin and the bobbin hole could be Ø80, 100. Same like other bobbins used in the extruder line. 使用的是顶针加紧。80 100 的孔径都可以, 这样的话, 线盘可以和其他线盘通用。
- 3, the frame and the bobbin rotate at the same time, but the frame rotated speed is a little higher, so the cable take up by bobbin. 悬框和线盘同时转动, 线盘的转速慢, 然后线就绕到线盘上了。
- 4, stable structure. higher speed, double time than the cantilever type. 结构稳定。高速, 快一倍。
- 5, more suitable for the big size cable twist. 适合大规格的成缆。



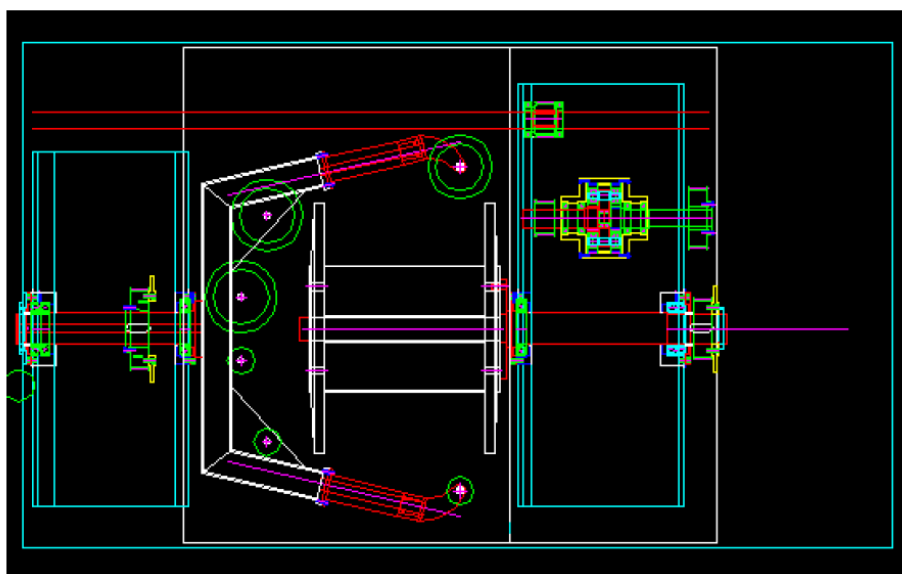
Frame type single twister

(Note: VOKSEL have 1 set 1250 Frame type single twist laying up machine from Shineworld-2018)

Note: The advantage and disadvantage of Cantilever type single twist machine

1. Please see the below drawing and picture, The load capacity lower than frame type, Because cantilever type support the take up bobbin from one side, but Frame type support the take up bobbin from both side.
2. The whole structure of cantilever looks not more stronger than Frame type, so when high speed running with full load capacity, running speed will be lower than frame type.
3. In China market and overseas market, when customer need Single twist laying up machine is 630mm, 800mm and 1000mm, consider the running performance and machine price, most customer choose Cantilever; But when the customer need take up size : 1250mm, 1600mm and 2500mm, consider more stronger and higher speed, most of customer will choose Frame type, even the machine price more higher than Cantilever, but good running performance and more stable structure is the customer preferred.
4. At 2018, VOKSEL want to buy 1 set 630 single twister and 1 set 1250 single twister, when make decision about 1250 single twister, they finalized 1250 Frame type single twister laying up machine. So we suggest you consider 1250 Frame type.

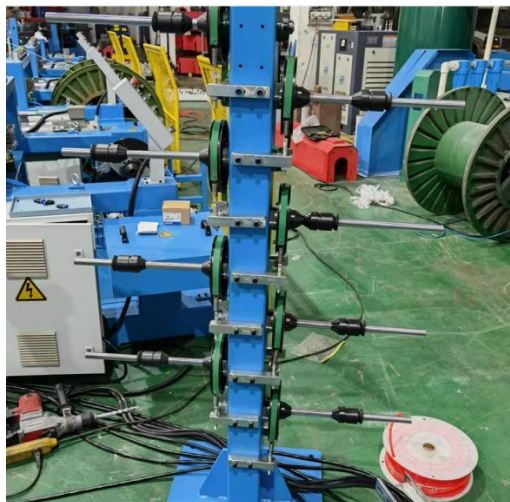
1250mm cantilever type single twist machine





6.7. Filling device

- 6.7.1 Number of filling heads: 8 pcs
- 6.7.2 Use spool size Inner dia. ϕ 20, outer dia. ϕ 250mm, height 300mm
- 6.7.3 Type: through shaft type, 4 shafts arranged up and down
- 6.7.4 Tension control mechanical flat belt type, manual adjustment of spring tension.
- 6.7.5 Spool fixed manual quick nut with jacking sleeve
- 6.7.6 Loading type: manual structure



6.8. Main electrical control system (with air condition)

6.8.1. Siemens HMI-12 inch can be used to display and set up parameters such as cable lay, speed, and meter count. It can also display common failures and realize a friendly human-computer interaction;

6.8.2. The taping machine and single-twisting main machine can be both used individually and combined for action.

6.8.3. S7-1200 Siemens programmable controller and rotary encoder;

6.8.4. Meter-counting mode: in-machine meter counting, touch screen display;

6.8.5. In-place broken wire warning device for meter counting;

6.8.6. Limit unit control for safety in operation.

6.9. Safety cover

6.9.1 Low noise design: fully enclosed acoustic enclosure, DB-80 dB or less,

6.9.2 The whole machine adopts sound insulation board and galvanized punching diaphragm.

6.9.3 Limit switch of safety door: safety interlock shutdown of opening and closing door.

6.9.4 Internal heat dissipation: 2 pcs 300mm-4P fans for air circulation heat exchange.

6.10. Automatic lubrication system for single twister

6.10.1 For the bearing part, some automatic oiling systems, and some regular high-speed butter;

6.10.2 Set the operation time node, take the initiative to refuel, and the refueling time can be set freely;

6.10.3 One set of cantilever spindle, one set of take-up spindle and guide rail wire traverse screw.

6.11. Automatic lubrication system for tapping machine

6.11.1 For the bearing part, some automatic oiling systems, and some regular high-speed butter;

6.11.2 Set the operation time node, take the initiative to refuel, and the refueling time can be set freely;

6.12. Automatic bearing temperature sensing system

The main shaft bearing senses the bearing temperature through the thermocouple temperature measuring point. The Siemens temperature control module is used for temperature control. When the bearing reaches the set temperature, the protection function can be started automatically.

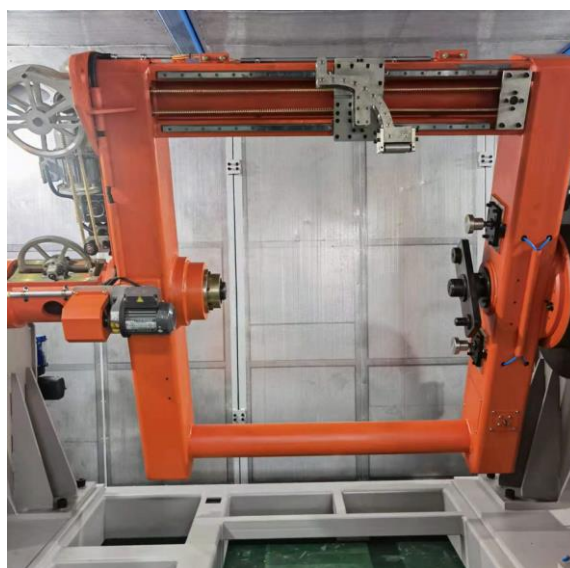
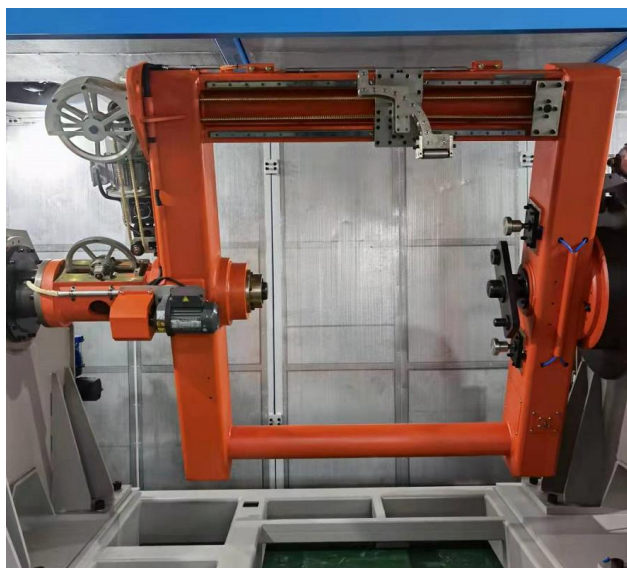
6.13.Brake part

6.13.1 Pneumatic brake is adopted

6.13.2 Take up brake 1 set

6.13.3 Cantilever type single twister brake 1 set

6.13.4 Installed at both side of the spindle.

7. Pictures (only for reference)

1250 Frame type single twist laying up machine

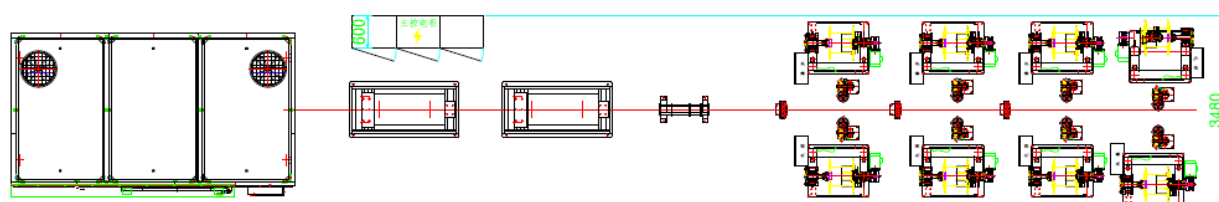
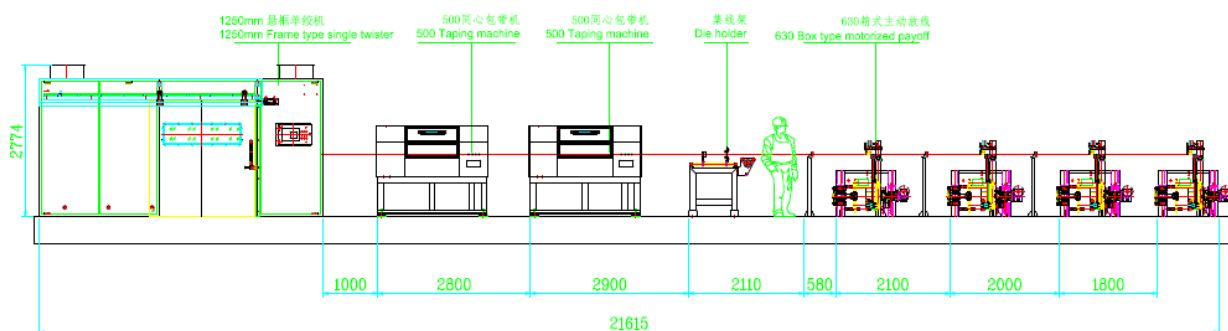


Shineworld

SHANGHAI SHINEWORLD ENGINEERING CO.,LTD.







1250 Frame type single twist laying up machine

SHANGHAI SHINEWORLD ENGINEERING CO., LTD.