Specification for 800 bunching production line

Solution for class 5 flexible conductor stranding ：2.5-16mm²
With 1 set 800 main double twisting machines
With 4 sets-double 630 motordriving pay-off

➢ Merits:

1. High speed and good stability (the motor through the rigid coupling directly connected with the drive shaft)

2.Automatic tension control: When stranding, the reel take up from the empty to the full , the tension must be increased (With the touch screen Free Set the data) The machine can automatically adjust the tension smoothly, keep the tension uniform variation ,Can achieve tension setting while working .

3.Over-line system: The latest structure, the wire from the spindle directly across the guide wheel to the bow belt, thebow (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 externa wire broken error display in the touch screen on the automatic alarm or can not 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, stronghardness , 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.

11. Change the lay length: easy to operate, just change the leading wheel according to the lay length sheet. Manual-change the leading wheel according to the lay length sheet The technology from Japan-KINREI BRAND -BUNCHER; Please view website：www.kinrei.co.jp

ADVANTAGE: 1. Energy saving; 2. Low failure rate

260 NEWPORT CENTER DR STE 100
NEWPORT BEACH, CA 92660

1. Application

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

2. Main production parameter

2.1	Single conductor wire diameter	0.20-1.7mm （Copper andAluminum)
2.2	Finished products size	2.5-16mm²
2.3	Twisting pitch	25.0~1 50mm(34 section 7.4~166.4 mm)
2.4	Max Speed of frame bow	1600rpm(3200twists/min)
2.5	Directionof twist	S, Z.
2.6	Main motor	15KW AC Inverter motor
2.9	Take-up bobbin	PND800mm

SN	SIZE	STRUCTURE	
1	1 mm²	32/0.2	7/0.43
2	1.5 mm²	31/0.25	7/0.52
3	2.5 mm²	51/0.25	19/0.41
4	4 mm²	57/0.3	19/0.52
5	6 mm²	85/0.3	19/0.63
6	10 mm²	79/0.4	49/0.51
7	16 mm²	127/0.4	49/0.64

3. 800 double stranding line main parts components

3.1	630 motordriving pay-off	630	4sets/8bobbin
3.2	Close die stand		1 set
3.3	800 main stranding machine		1 set
3.4	Loading /unloading system		1 set
3.7	Electrical control system		1 set
3.8	Safety fence		1 set

4. Technical Specification for main components

4.1.800 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 mm²;

260 NEWPORT CENTER DR STE 100
NEWPORT BEACH, CA 92660

Pitches	:23~1 60mm 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)
	1600 rpm 3200twist/min
The largest production speed	Production speed is the stranding machines theoretically possible 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
800	600	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.
Equipment paint colo	Cover :RAL5015 Sky blue （or accustomed）
	Cabinet :RAL 7035 (light gray)
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 105 Pa), water and oil free
Electromagnetic compatibility	The machine is conformity with the electromagnetic compatibility specification89/ 336/EWG 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□ , the minimum environmental temperature is +5□ / the maximum environmental temperature is +40□ , altitude is no more than 1,000 meters, Relative Humidity: maximum 50% at 40□ ; maximum 90% at 20□ ; 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 equipments by the user only. We recommend that users to analysis the power supply grid after the production line operation.

4.2. 630 motor driving pay-off for flexible conductor

Bobbin size	630mm
Number of Bobbin	1 sets with two head
Wire Diameter	φ0.2 ~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

5. 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

6. Technical drawing

6.1 Machine layout, foundation drawing

6.2 Electricity, piping drawings

6.3 Operation manuals

6.4 Transmission system drawing.

7.Other

7.1 The operation direction of the machine: right hand or based on the customer's requires.

7.2 Machine color: according to the color plate offered by customers.

8. Production line configuration instructions

SN	Description of goods	Model	Origin
1	Main motor	15KW	**SFC or Danma brand Brake Motor**
2	Converter	15KW	SIEMENS or YASKAWA
3	PLC program		SIEMENS
4	PLC expander	1set	SIEMENS
5	Touch screen	colorful	SIEMENS
6	Electromagnetic brake	32KG	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	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.

9. Detailed 630 main stranding machine description

Products Model	The mechanical body is treated by annealing , eliminate stress, precision boring machine through a molding process. 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 φ30mm rolling ring traverse, winding pitch and breadth are adjustable.