

*Leading the global wire and cable industry with intelligent manufacturing and new materials.*

## 1、ADVANTAGE



### ADVANTAGE

- 1、 Competitive price
- 2、 No installation, no foundation, take model design including electrical wire 、 water pipe and air pipe . only connected can start to work because already test running before shipment.
- 3、 Local after sales service because shineworld set up aboard after sales office and has 4-5 local engineer.
- 4、 En-joyful buying because professional team

## 2、 How to choose model

Cross Section	Material	Extruder Model	Extruder Speed	Coiler Speed	Printer Speed	Line Speed	
1.5-6 mm <sup>2</sup>	PVC	70/80+1246	600-1000	350	500	200	
10mm <sup>2</sup>	LSZH	80+1246					
1.5-10mm <sup>2</sup>		80+1246					
10-35 mm <sup>2</sup>	Copper	80/90+1860					
10-95 mm <sup>2</sup>	Aluminum						
1.5-6 mm <sup>2</sup>	PVC	70/80	600-1000		500	500	
10mm <sup>2</sup> - 35mm <sup>2</sup>	LSZH	80					
1.5-10mm <sup>2</sup>		80					
10-35 mm <sup>2</sup>	Copper	80/90					
10-95 mm <sup>2</sup>	Aluminum						
10-240 mm <sup>2</sup>		90					
50-630 mm <sup>2</sup>		120					
5X240 mm <sup>2</sup>		120					
5X630 mm <sup>2</sup>		150					300-500

## 3、QUOTATION

SN	DESCRIPTION	QUANTITY	FOB SHANGHAI UNIT PRICE/USD	FOB SHANGHAI AMOUNT/USD
1	70+45 high speed insulation line SW70+45	1.00SET	59,800.00	59,800.00
TOTAL:				59,800.00

**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:
  - λ The water pipe, compressed air pipe used in site. And response to connect with the machine corresponding connectors.
  - λ All the Wire and cable between transformers to the electrical cabinets.
  - λ Installation.
- 7, The following are not included in the scope of our supply:
  - λ The preparation of the site with all the necessary foundation work and ceiling openings etc.
  - λ The connection cables from the mains to the switch unit and from this to the various motors and auxiliary units of our equipment.
  - λ The electrical installation including the required safety devices outside the machine and switch unit.
    - λ The connection pipes, gravity feed hoppers etc., between the various units supplied by us.
    - λ 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.

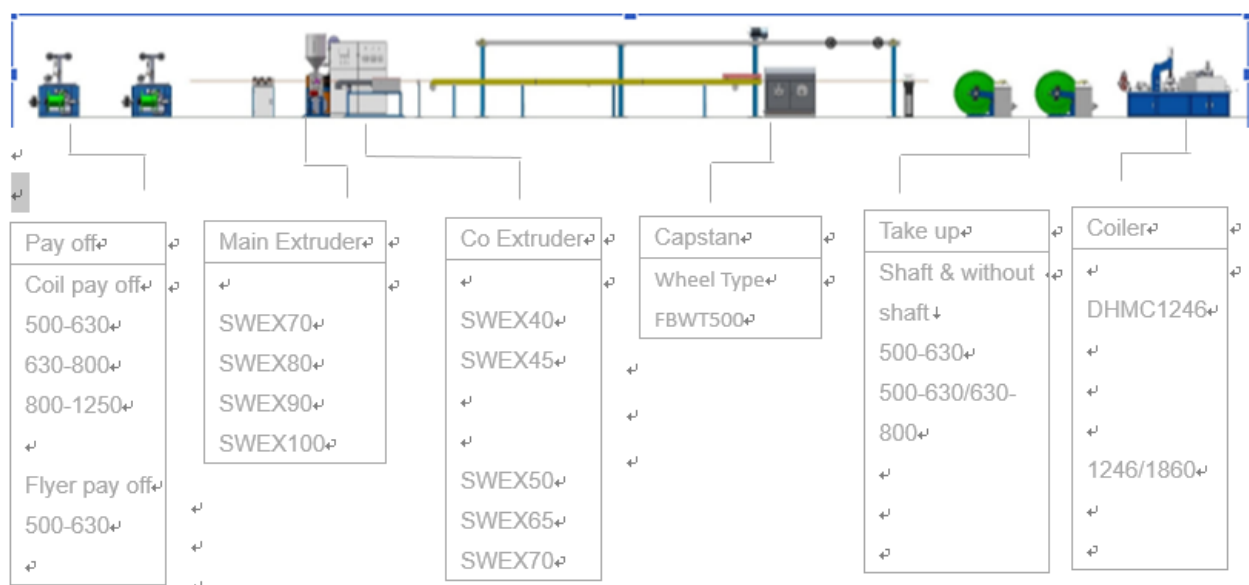
#### 4、 SPECIFICATION

### SW 70+45 high speed wire insulation line

#### 4.1. General description

This machine is used for PVC and PE cable high speed insulation extrusion, mainly use for flexible cable/hard wire/building wire/housing wire/power cable. It can product one color fill, two colors stripe/skin insulation cable.

#### 4.2. Product lay out drawing Line direction



#### 4.3、 Main Technical Parameter

4.3.1	Process materials			<b>XLPE</b>	<b>LSZH</b>	<b>PVC</b>
4.3.2	Line speed	0 ~ 350m/min (1.0mm <sup>2</sup> ---350m/min)				
4.3.3	Screw rotate speed	0 ~ 120r/min				
4.3.4	Maximum extruding capacity	PVC:200kg/h				
	<b>Size</b>	<b>Conductor OD</b>	<b>Thickness mm</b>	<b>Finished OD</b>	<b>XLPE SPEED</b>	<b>LSZH SPEED</b>
	0.5mm <sup>2</sup> /0.8	0.8	0.4	1.9-2.3		350m/min
	0.75mm <sup>2</sup> /0.8	0.97	0.4	2.1-2.5		350m/min
	1.0mm <sup>2</sup> /1.13	1.13	0.4	2.2-2.7		350m/min

	1.5mm <sup>2</sup> /1.38	1.38	0.6	2.6-3.2			320m/min
	2.5mm <sup>2</sup> /1.78	1.78	0.6	3.2-3.9			240m/min
	2.5mm <sup>2</sup> /19x0.41	1.78	0.6	4.2			238m/min
	4.0mm <sup>2</sup> /2.25	2.25	0.8	3.6-4.4			152m/min
	4.0mm <sup>2</sup> /19x0.52	2.25	0.8	4.8			150m/min
	6.0mm <sup>2</sup> /2.76	2.76	0.8	4.1-5.0			120m/min
	6.0mm <sup>2</sup> /19x0.64	2.76	0.8	5.6			120m/min
	10mm <sup>2</sup> /7*1.35	3.56	0.8	5.6-6.7			80m/min
	10mm <sup>2</sup> /84*0.4	3.56	0.8	7.6			80m/min
4.3.5	Max output		1 screw for 70		150kg	120kg	200kg
			1 screw for 45		30kg	25kg	50kg
4.3.6	Motor Power				30	37	30
4.3.7	Conductor size range		compacted & flexible copper conductor Min 0.5mm <sup>2</sup> to max 10mm <sup>2</sup> for insulation process, Input Dia. (mm) 0.8-3.56				
4.3.8	Cross section area(mm <sup>2</sup> )		0.5-10	Crosshead size		U14	
4.3.9	Finished cable diameter		0.5mm <sup>2</sup> to 10mm <sup>2</sup> (single round core) Output Dia.(mm) 1.9-7.6				
4.3.10	Applicable cable type		Insulation & jacketing				
4.3.11	Axis cable height		1000mm				
4.3.12	Voltage		3 phase -5 wires. AC380/415V (±10%),-50/60HZ, according to customer's standard.				

#### 4.4、Production line specification

SN	Item	Technical data	
4.4.1	Line direction(based on customer's requirements)	A. Left pay off , Right take up or B. Right pay off , Left take up	
4.4.2	Coating Color	machine body	RAL5015
		Rotation parts	RAL2004, orange
		Electrical cabinet	RAL7035
4.4.3	Consumption	Power consumption	80KWh
		Water consumption	Circulation
		Air consumption	5m <sup>3</sup> /h
4.4.4	Bobbin	Take up	Pay off

	Flange	PN500-PN630mm motorized frame	for	PN500-PN630mm motorized frame	for
	Bobbin width	300-475mm		300-475mm	
	Traverse width	250-500mm		250-500mm	
	Bobbin Bore	127mm		127mm	
	Bobbin Material	Steel ABS		Steel ABS	
4.4.5	Lubricant	220# for all gear box			
4.4.6	Electrical control cabinet	PLC+HMI			
4.4.7	Operator	One worker for one line			
4.4.8	Heating	Heating/cooling zone		4	
		Heating power		15	
4.4.9	Cooling system	Material		SS 304	
		Type		Single layer, Single Spraying	
4.4.10	Capstan	Max .1000N			
4.4.11	The water trough length	2m movable +8m single layer			
4.4.12	Take up	15 - 180N (+/-10%)			
4.4.13	Operator	1 or 2 Operator			
	Maintenance duration	Every structure of the shafts ,chained wheels and chained piece should add Ca n°3 lubrication, one time per month Bearings of the idler pulley should add Ca n°2 lubrication grease every three months			
4.4.15	Complete set of production-line installation length of the 23 to 25 meters				
<b>4.5. Electrical Technical Parameter</b>					
4.5.1	Making Norm	EN 60204			
4.5.2	Safety level	EN954-1			
4.5.3	Working voltage	AC380/415V (±10%),-50/60HZ,			
4.5.4	Power frequency	50/60HZ ±1%			
4.5.5	Voltage fluctuation	-10% +5%			
4.5.6	Zero wire	3 phase with neutral ,without earth			
4.5.7	Control voltage	24V DC			
4.5.8	Solenoid Valve Voltage	24V DC			
4.5.9	Lamp Voltage	24V DC			
4.5.10	Cabinet inlet	According to customer's standard			

4.5.11	Power supply	According to customer's standard
4.5.12	Control	Main switch SIEMENS 3VT type
4.5.13	Driven	SIEMENS, all closed loop control
4.5.14	Environment Temp	10-40℃
4.5.15	Air humidity	DIN 40040 F level
4.5.16	Assemble height	Till 1000mm
4.5.17	Heating Resistance zone insulation instruction	NO
4.5.18	Electrical control cabinet	Electrical control cabinet

#### 4.6、Configuration

##### 4.6.1、Main configuration

No	QTY	Unit		
4.6.1.1	1	set	PN500 ~ PN630mm motorized pay off	Inverter motor drive
4.6.1.2	1	set	Straightening table	Φ100mm
4.6.1.3	1	set	High speed extruder	EX70-25
4.6.1.4	1	set	Strip/skin Injecting extruder	EX45-25 vertical type
4.6.1.5	1	set	Crosshead	Auto- centering U14
4.6.1.6	1	set	Plastic loader and dryer	100KG dryer + automatically hopper
4.6.1.7	1	set	Diameter gauge	Chinese famous brand
4.6.1.8	1	set	Ink printer	Ink
4.6.1.9	1	set	stainless steel cooling trough	Moveable+ single layer
4.6.1.10	1	set	Horizontal accumulator	0~200m
4.6.1.11	1	set	Φ500 dual wheel capstan	Dual wheel type
4.6.1.12	1	set	Sparker tester	15KV-Chinese famous brand
4.6.1.13	1	set	PN500 ~ PN630mm dual-bobbin take up	Dual bobbin manual changed

4.6.1.14	1	set	Electric control system	Automatic by PLC+HMI	
<b>4.6.2、Parts list</b>					
<b>4.6.2.1.Motors and Inverter</b>					
		Motor Type/Power		Inverter Type/Power	Manufacture
Pay off		4kw AC		Siemens or Yaskawa	Siemens Beide
Main extruder 70mm		30KW		Siemens or Yaskawa	Siemens Beide
Co-extruder 45mm		11KW		Siemens or Yaskawa	Siemens Beide
Capstan		4KW		Siemens or Yaskawa	Siemens Beide
Take up		4KW*2		Siemens or Yaskawa	Siemens Beide
<b>4.6.2.2.Other</b>					
Parts name		Manufacture			
Gear box		Chinese famous brand			
Main Low-voltage components		Schneider and Chinese famous brand			
PLC (all)		SIEMENS S7-200 smart			
Touch screen		Siemens or MCGS			
Temperature unit		RKC			
Solid relay		Fotek or Chinese famous brand			
<b>4.7. Specification for the main components (Scope of supply Specification)</b>					
<b>4.7.1.PN500-630mm motorized pay off</b>					
	Name of product	Type/None			
4.7.1.1	Speed	Max:400m/min			
4.7.1.2	Bobbin size:	PN500- PN630mm			
4.7.1.3	Motor:	4KW, Siemens motor			
4.7.1.4	Loading/unloading	Motor drives the screw up and down			
4.7.1.5	Clamping	Cylinder block			
4.7.1.6	Tension is regulated by tension cylinder, range is 0-2.5KG.				



#### 4.7.2 Five wheel straightening device

- |         |  |
|---------|--|
| 4.7.2.1 | Straightening direction: one-way.                            |
| 4.7.2.2 | The straightening wheels can be adjusted up, down as needed. |
| 4.7.2.3 | Attached with mold toolbox, center height 1000mm.            |



#### 4.7.3 EX70 High speed extruder

<b>4.7.3.1</b>	<b>Screw data</b>	
	Diameter	70mm
	Length-diameter Ratio:	25: 1
	Screw structure	BM
	Max speed	120RPM
	Screw rigidity	reach HV950
	Material	38CrMoA1A, nitrogen treatment; (Nitride depth:0.6)



	Output with PVC	≤200KG/H
	Output with PE	≤160KG/H
<b>4.7.3.2</b>	<b>Barrel data</b>	
	N. of heated/cooled zones	4
	Heating power for each zone	4.5KW
	Total heating power	18KW
	Material	38CrMoAlA, nitrogen treatment; (Nitride depth:0.6)
	Temperature adjustment up to	350 (±1°C) °C
	Heating system	electric resistances
	Cooling system	air flow with electro fans
<b>4.7.3.3</b>	<b>Electric parameters</b>	
	Driven motor	30Kw, Siemens AC motor
	Barrel cooling electric fan	250W/AC380V
	Temperature controller	RKC
	Others heated zones	1 zone for flange; 1 zone for neck; 1 zone for mold
<b>4.7.3.4</b>	<b>Others</b>	
	Gearbox	nodular cast iron
	Gear	Gearbox built up with helical toothed gears in Ni Cr steel, casehardened and ground.
	Gear lubrication	Oil feed forcibly by gear
	Clamps	The machine is composed by a heated clamp having manual closing to be coupled to the crosshead.
<b>4.7.3.5</b>	<b>Hopper &amp; Loading system</b>	
	Dryer capability:	100kg/h
	Loading capability	120kg/h
	Material	stainless steel container
4.7.3.6	Hopper loader made up of stainless steel plate, placed on the material inlet zone, provided with gates, material level controlling lamp and minimum level alarm.	



#### 4.7.4 EX45 Vertical stripe/skin injector

<b>4.7.4.1 Screw data</b>		
Diameter		45mm
Length-diameter Ratio:		25: 1
Screw structure		BM
Max speed		110RPM
Screw rigidity		reach HV950
Material		38CrMoAIA, nitrogen treatment; (Nitride depth:0.6)
Output with PVC		≤50KG/H
Output with PE		≤30KG/H
<b>4.7.4.2 Barrel data</b>		
N. of heated/cooled zones		3
Heating power for each zone		2.1KW
Heating power		AC380V 50Hz
Total heating power		7.0KW
Material		38CrMoAIA, nitrogen treatment; (Nitride depth:0.6)
Temperature adjustment up to		350 (±1°C) °C
Heating system		electric resistances
<b>4.7.4.3 Electric parameters</b>		
Driven motor		15 Kw dedicated AC motor with reducer integrated
Temperature controller		RKC
Others heated zones		2 zones for neck

**4.7.4.4 Hopper & Loading (manual)**

Hopper loader made up of stainless steel plate, placed on the material inlet zone, material is feeding by manual.


**4.7.5 Crosshead**

4.7.5.1	Model	U14
4.7.5.2	The main characteristics	Single color, Double layer, Striping coloration
4.7.5.3	Obstruction disk	For Skin / without Skin Double Stripping Single Stripping (30%)
4.7.5.4	Fix and Centering	Self-acting
4.7.5.5	Inlet wire range	0.8-8mm
4.7.5.6	Finished wire range	1.5-10mm
4.7.5.7	Heating	1 heating zone AC220V
4.7.5.8	All strategic parts are made of nitrated steel with all parts contact with the melt flow material carefully polished to achieve an excellent streamlined flow	
4.7.5.9	Melt flow distributor suitable for the most common materials: PVC, PE, HFFR	



#### 4.7.6. Diameter gauge

4.7.6.1	Model	DDM-3020
4.7.6.2	Measurement range	Max. OD 16mm
4.7.6.3	Recommend measurement range	d=0.1~14mm
4.7.6.4	Measurement precision	+/-0.003
4.7.6.5	Measurement resolution ratio	0.001mm
4.7.6.6	Overall dimension	440*100*100(without support)
4.7.6.7	Centering height	1000mm

#### 4.7.7. Ink printer

4.7.7.1	Dia. range	Φ0.75~Φ12mm;
4.7.7.2	Max line speed	350m/min
4.7.7.3	Power	AC220V 50Hz
4.7.7.4	Ink print wheel size	OD. 100mm, inner bore Φ20mm, Max width 25mm
4.7.7.5	Oil ink cartridges	Cast aluminum, equipped with a random 2
4.7.7.6	Center height	1000mm, up-down adjustment
4.7.7.7	Printing quality conform to	UL, CSA, VDE, JIS, T-MARR series of standards

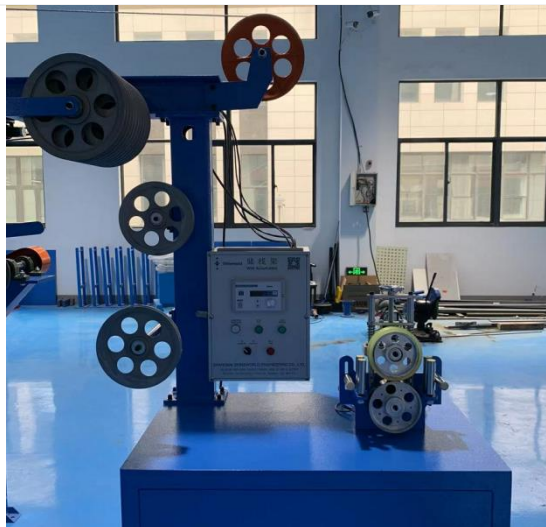
<b>4.7.8. Cooling trough</b>		
4.7.8.1	2.5m primary moving water trough and tank	
	Suitable for wire diameter	Max 10mm
	Centering height	1000mm
	Dimension	U type: (H)140*(W)150
	Material	SUS304 stainless steel
	Total length	2.5m
	Moving range	Max 500mm
	Cooling way	For spray and water immersion, with wire hold trough
4.7.8.2.	Single layer fixed water trough	
	Suitable for wire diameter	Max 10mm
	Centering height	1000mm
	Dimension	U type: (H)140*(W)150
	Material	SUS304 stainless steel
	Total length	8m
	Cooling way	For spray and water immersion, with wire hold trough
<b>4.7.9. Horizontal accumulator</b>		
4.7.9.1	Motor	1.5KW motor with reducer
4.7.9.2	Tension control	20KG-magnetic powder clutch
4.7.9.3	Capacity	Max. 200m
4.7.9.4	Accumulator wheel size	Φ300mm
4.7.9.5	Material of wheel	Aluminum alloy

4.7.9.6	Numbers of wheel	10:11
4.7.9.7	Wheel trough deep	H=12mm
4.7.9.8	Wheel trough width	S=14mm
4.7.9.9	It is feed backed to take up motor controller by potential detector. The speed of take up speed up automatically when accumulated wire capacity is bigger. Otherwise, the speed of take up slow down automatically when accumulated wire capacity is less.	
4.7.9.10	Control Box: Located at the place where the reservoir line into the round, control: under 1.1KW power motor to reversed control and switch tension adjuster VR, Ampere tension table instructions, the power indicator light.	



#### 4.7.10. Electrical meter counter

4.7.10.1	Dia. of the pressure wheel:	Φ500mm;
4.7.10.2	Suitable cable Dia.:	Max.Φ20mm;
4.7.10.3	Working type	Only one direction cable cannot go back with high precision
4.7.10.4	Length	0~9999m
4.7.10.5	The lower part is the tool box	



#### 4.7.11. Spark tester

4.7.11.1	Model	ST-15A
4.7.11.2	Dia. range	Φ0.1~Φ20mm;
4.7.11.3	Voltage:	1.0~15KV(Max.)
4.7.11.4	Voltage indication error	<5%
4.7.11.5	Detection sensitivity	<600uA
4.7.11.6	Detection resolution	0.05s
4.7.11.7	Max detection speed	350m/min
4.7.11.8	Length of testing electrode	280mm
4.7.11.9	Overall dimension	700*400*1190
4.7.11.10	Conform to Japan, the United States, European countries standard or the Great Wall of China certification;	



#### 4.7.12. Φ500 dual wheel capstan

4.7.12.1	Max design speed	400m/min
4.7.12.2	Center height	1000mm
4.7.12.3	Motor	4KW Siemens AC motor
4.7.12.4	Structure	Double round water trough type
4.7.12.5	Material	Aluminum alloy
4.7.12.6	Box	Open door all-sealed box
4.7.12.7	One meter counter, mounted on the primer on the part of the round, meter number displayed on the main electrical control box.	
4.7.12.8	Equipment at the end of the cable of the water tank, use high-pressure to air-drying surface water, to keep the site clean	



#### 4.7.13. PN500~PN630mm dual-bobbin take up

4.7.13.1	Max design speed	400m/min
4.7.13.2	Suitable wire OD.	1.5-10mm
4.7.13.3	Suitable bobbin size	PN500-PN630
4.7.13.4	Motor	2 sets 4KW Siemens AC motor
4.7.13.5	Control	4KW inverter
4.7.13.6	Lift type	Bobbins lift and down by motor drive screw
4.7.13.7	Bobbin clamp	By pneumatic
4.7.13.8	Wire traverse	The traverse screw is driven by inverter motor, following take up speed.
4.7.13.9	Transverse pitch could be adjusted to make sure the transverse stable.	





#### 4.7.14. Electrical control system

<b>4.7.14.1</b>	<b>Control system overview</b>	
	Control cabinet	Rittal design, painted colors RAL 7035
	Cabinet size	L(1600)*H(2000)*W(500)mm
	Cable inlet	Main power supply cables and all extruder cable entering from the bottom; All other part's control and power cable enter from the top.
	Power supply three phases	AC 380V 50Hz
	Low control power supply	AC 220V 50Hz
	Lamps, buttons, sensors	24 Vdc
<b>4.7.14.2</b>	<b>Auxiliaries circuits brands</b>	
	Motors	SIEMENS brand
	Drivers	SIEMENS or Yaskawa
	PLC + HMI	SIEMENS or MCGS
	From the most recognized international brands: Schneider or Chinese famous brand	Main circuit breaker, Contactors, Auxiliary relays, Safety gates control block, Push buttons (Ø 22 mm), Proximity switches, Limit switches, Terminals, Encoders, Lamps
<b>4.7.14.3</b>	<b>Control Function Description</b>	
	Operation	Manual, Synchronous or automatic mode
	Main PLC	Connect with drivers and HMI by profinet; It takes all the controls and inspections of the whole line, provides strong and complete control capabilities
	Main HMI	HMI for all single part; HMI for all production data; HMI for Alarm message; HMI for control when button broken; HMI for maintainance; HMI for production monitor

	Alarm information	Motor driver fault; Cooling fan overload; Motor fan overload; E-stop alarm; Wire OD. Overflow alarm;
4.7.14.4	PLC Siemens S7-200 smart connected in Profinet with external and internal components as drives, video-keyboard, and remote PLC, or any other.	
4.7.14.5	Safety relays for emergency kept electro-mechanical outside the PLC.	
4.7.14.6	Operator panel, to be fit in a suitable position close to the drawing machine, with all push buttons and lamps needed for the easy and correct use of the line supplied with a HMI Display.	
4.7.14.7	The software used is custom made to suit all needs for an easy use by the operator or by the technician.	
4.7.14.8	Cooling fan is controlled by the temperature control meter to make the temperature curve straight.	
4.7.14.9	The counter receives the pulse signal sent by the meter counter. The ratio of code length to pulse number can be adjusted freely, which can count the length conveniently and accurately. At the same time, it also has the meter prediction function to make the operator more comfortable.	
4.7.14.10	Automatic process control: operated by touch screen and assisted by buttons.	



## 5、 SPARE PARTS

SN	Description	Qty.
5.1	Barrel heater for EX70 Barrel heater for EX35 Crosshead heating circle and rod	1Set
5.2	Thermocouple	1pc each model
5.3	Solid relay	1pc each model
5.4	Auxiliary relay	2pcs
5.5	Crosshead wrench	1pc
5.6	Inner hexagon wrench	1set

5.7	Monkey wrench	1pc
5.8	Slot type screwdriver Cross screwdriver	1pc each model
5.9	Tool box	1pc
5.10	Foundation screw and fixed screw	1set
5.11	Honeycomb sample	1pc
<b>6、ENGINEERING DOCUMENTS</b>		
6.1	Lay-out drawing in printed and CAD Version	1 set for each
6.2	foundation drawing in printed and CAD Version	1 set for each
6.3	Operation Manual in printed & digital copy	1 set for each
6.4	Sourcing Equipment Operation Manual	1 set for each
6.5	Electric Drawing in Digital and Printed Copy	1 set for each
6.6	Wire Diagram list in Digital	1pc
6.7	Maintenance Plan	1set
6.8	Certification of Test Equipment	1pc

**SHANGHAI SHINEWORLD ENGINEERING CO., LTD.**