

*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	120 high speed Jacketing line Model: SW120	1.00SET	238, 000.00	238, 000.00
TOTAL:				238, 000.00

**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 90 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.

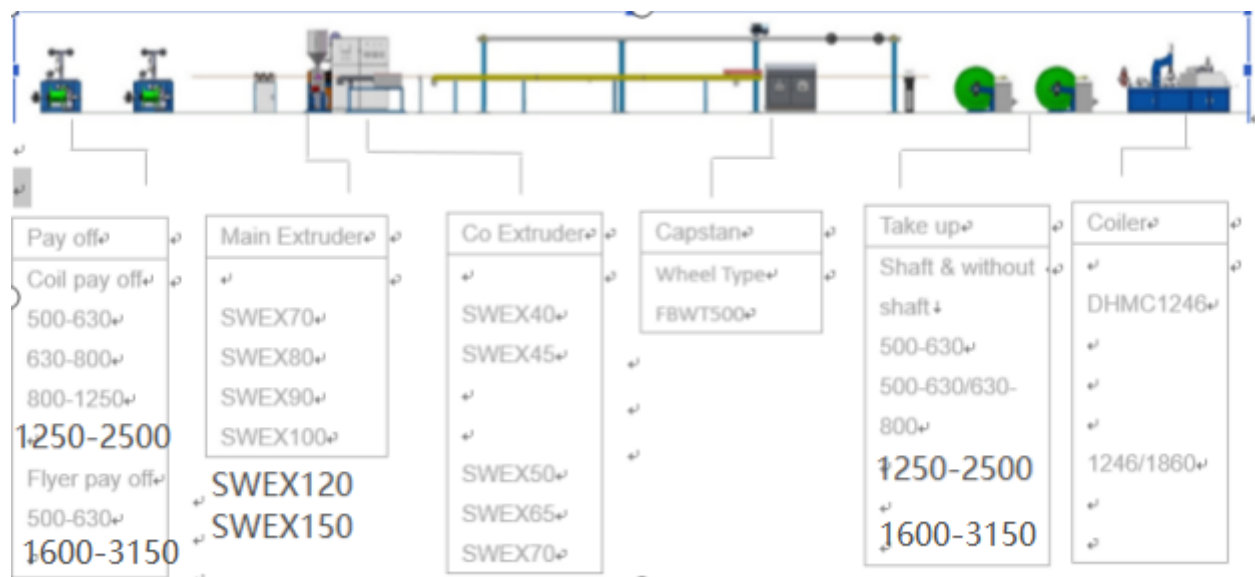
#### 4、SPECIFICATION

### SW 120 high speed Jacketing line

#### 4.1. General description

This machine is used for PVC and XLPE cable insulation and sheathing extrusion, mainly use for flexible cable/hard wire/building wire/housing wire/power cable.

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



#### 4.3、 Main Technical Parameter

4.3.1	Process materials			<b>XLPE</b>		<b>PVC</b>
4.3.2	Line speed	0 ~ 100m/min (25mm <sup>2</sup> --100m/min)				
4.3.3	Screw rotate speed	0-80RPM/min				
4.3.4	Maximum extruding capacity	PVC:680kg/h ±5% ; XLPE: 600kg/h ±5%				
	<b>Size</b>	<b>Conduct or OD</b>	<b>Thicknes s mm</b>	<b>Finished OD</b>	<b>XLPE SPEED</b>	<b>LSZH SPEED</b>
	50mm <sup>2</sup>	8.9	1.4	11.9mm		100m/min
	150mm <sup>2</sup>	15.7	1.8	19.5mm		80m/min

	3*25mm <sup>2</sup>	25	1.8	28.6mm			100m/min
	3*150mm <sup>2</sup>	36	2.0	42mm			60m/min
	3*240mm <sup>2</sup>	46	2.5	50mm			40m/min
4.3.5	Max output		1 screw for 120		600kg	500kg	680kg
4.3.6	Motor Power						132kw
4.3.7	Conductor size range		Conductor size 8.0-45.0mm; Core size: 25.0-80.0mm				
4.3.8	Cross section area(mm <sup>2</sup> )		10-60mm		Cross head size		Adjustable type
4.3.9	Finished cable diameter		Insulation: 10.0-40.0mm ; Jacketing: 30.0-80.0mm				
4.3.10	Applicable cable type		Insulation or 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	210kw
		Water consumption	Circulation
		Air consumption	20m <sup>3</sup> /h
4.4.4	Bobbin	Take up	Pay off
	Flange	PN1600-3150mm	PN1250-2500mm
	Barrel	800-1900	800-1900
	Bobbin width	1180-2300	1180-2300
	Traverse width	1000-2000	1000-2000
	Bobbin Bore	80 -160	80 -160
	Bobbin Material	Steel	Steel
4.4.5	Lubricant	220# for all gear box	
4.4.6	Electrical control cabinet	PLC+HMI	

4.4.7	Engine	2 workers for one line	
4.4.8	Heating	Heating/cooling zone	6
		Heating power	60kw
4.4.9	Cooling system	Material	SUS 304
		Type	Single layer, Single Spraying
4.4.10	Caterpillar	2*11KW, frequency motor	
4.4.11	The water trough length	4+28m single layer	
4.4.12	Take up	15KW, frequency motor	
4.4.13	Operator	1 or 2 Operator	
4.4.14	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 42-50 meters		

#### 4.5、Electrical Technical Parameter

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°C
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		
<b>4.6、 Configuration</b>				
<b>4.6.1、 Main configuration</b>				
No	QTY	Unit		
4.6.1.1	1	set	PN1250-2500mm portal type pay off	1250-2500mm
4.6.1.2	1	set	1600kgs belt type pneumatic caterpillar	1600kg
4.6.1.3	1	set	Main extruder	120X25
4.6.1.4	1	set	Material hopper and loader	Automatically
4.6.1.5	2	set	Crosshead for 120 Extruder	Input : 8.0-45.0mm; 25.0- 80.0mm Output:10.0- 50.0mm ;30.0-85.0mm
4.6.1.6	1	set	28m Stainless steel water trough	4+28 meters
4.6.1.7	1	set	Spark tester	25KV
4.6.1.8	1	set	Online diameter gauge	0-90mm
4.6.1.9	1	set	Meter counter	Φ90.0mm
4.6.1.10	1	set	1600kg back belt pneumatic caterpillar	1600kg
4.6.1.11	1	set	PN1600-3150mm portal type take-up	1600-3150mm
4.6.1.12	1	set	Electric control system	With arm panel
4.6.1.13	2	set	Screw	
<b>4.6.2、 Parts list</b>				
<b>4.6.2.1.Motors and Inverter</b>				
		Motor Type/Power	Inverter Type/Power	Manufacture

PN1250-2500 portal Pay off	4.1kw AC	Siemens or Yaskawa	Siemens Beide
1600kg caterpillar	11kw AC	Siemens or Yaskawa	Siemens Beide
Main extruder 120mm	132kw AC	Siemens or Yaskawa	Siemens Beide
1600kg caterpillar	11kw AC	Siemens or Yaskawa	Siemens Beide
PN1600-3150mm portal take up	15kw AC	Siemens or Yaskawa	Siemens Beide

**4.6.2.2.Other**

	Manufacture		
Gear box	Chinese famous brand		
Main Low-voltage components	Schneider and Chinese famous brand		
PLC (all)	SIEMENS S7-1200		
Touch screen	Siemens or MCGS		
Temperature unit	RKC		
Solid relay	Fotek or Chinese famous brand		

**4.7. Specification for the main components (Scope of supply Specification)**
**4.7.1.PN1250-2500mm portal type pay off**

	Name of product	Type/None			
4.7.1..1	Bobbin size:	PN1250-2500mm			
4.7.1.2	Loading/unloading	2.2KW AC Motor + reducer driving			
4.7.1.3	Clamping	1.1 KW AC Motor + reducer driving			
4.7.1.4	Brake	Pneumatic			
4.7.1.5	Applicable cable Dia.	Φ10-90mm			
4.7.1.6	Max. loading	15T			
4.7.1.7	Bearing:	HRB, ZWZ or LYC.			
4.7.1.8	Tension: Mechanical tension and adjustable				
4.7.1.9	Portal self-traverse type Payoff is made of steel construction and has strong body.				
	Pintle open-close motion is made by AC motor				

Towers will be able to move both side separately or together

The payoff device uses portal type and ground rail moving, upper of device is sleeve type, the body is bent and welded to the frame. Two pintle thimbles of the both side are driven by two motor through cyclical reducer to screw nut, and can move together or alone, with mechanical and electrical dual protection, operator can change the pintle for different section reel when necessary.



#### 4.7.2 1600KG front belt type pneumatic caterpillar

4.7.2.1	Max Force	1600kg
4.7.2.2	Cable size	Φ10-90mm
4.7.2.3	Qty of cylinders	6 pairs
4.7.2.4	Working length	1900mm
4.7.2.5	Width of caterpillar belt	120mm
4.7.2.6	Machine center height	1000mm
4.7.2.7	Driving motor	11KW SIEMENS motor
4.7.2.8	Motor control	SIEMSN G120C converter
4.7.2.9	Transmission	Motor with gearbox reducer
4.7.2.10	Total pressure	7.3 kg (6 BAR)



4.7.2.11	Top bottom flat belt haul off, compression and tension by air actuation.
	Entrance and exit equips with wire guide rollers.
	Main electrical panel and suspended control panel are on the machine.
	Electrical components will be SIEMINS and Schneider.



#### 4.7.3 EX120\*25 High speed extruder

<b>4.7.3.1</b>	<b>Screw data</b>	
	Diameter	120mm
	Length-diameter Ratio:	25: 1
	Screw structure	New BM type, suitable for XLPE,PVC
	Max speed	0-80RPM
	Screw rigidity	reach HV900
	Material	38CrMoALA with nitriding treatment,
	Output with PVC	PVC:680kg/h $\pm$ 5% ;
	Output with XLPE	XLPE: 600kg/h $\pm$ 5%
<b>4.7.3.2</b>	<b>Barrel data</b>	
	N. of heated/cooled zones	6
	Heating power for each zone	6.4KW
	Total heating power	39KW
	Material	38CrMoAIA, nitrogen treatment;
	Temperature adjustment up to	is 300°C, precision is within $\pm$ 2°C
	Heating system	electric resistances

	Cooling system	air flow with electro fans
	Barrel is equipped with pressure sensor and blasting switch. Connected with cross head by flange.	
	3 section heating system for extruder head and die.	
	One spare heating control system for heating system.	
<b>4.7.3.3</b>	<b>Electric parameters</b>	
	Driven motor	132KW , Siemens Beide AC motor
	Barrel cooling electric fan	1.1KW/AC380V
	Temperature controller	RKC
<b>4.7.3.4</b>	<b>Others</b>	
	Gearbox	nodular cast iron
	Gear	20CrMnTi with nitriding treatment,
	Gearbox has hard surface gear teeth, forced oil lubricating (model: 280)	
<b>4.7.3.5</b>	<b>Hopper &amp; Loading system</b>	
	Dryer capability:	300L
	Loading capability	800kg/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 Cross head

<b>4.7.4.1</b>	The main characteristics	Single layer
	Fix and Centering	Manual centering
<b>4.7.4.2</b>	Smaller Size	
	Inlet wire range	8.0-45.00mm

	Finished wire range	10.0-50.00mm
4.7.4.3	Bigger size:	
	Inlet wire range	25.00-80..0mm
	Finished wire range	30.00-85.00mm
4.7.4.4	Heating type:	outer heating mode.
	The head is equipped with vacuum pumping: vortex fan, motor power 1.1kw, 1500rpm	
	The main characteristics	Single layer



#### 4.7.5 Diameter gauge

4.7.5.1	Measurement range	Max. OD 90mm
4.7.5.2	Recommend measurement range	Max 80mm
4.7.5.3	Measurement precision	+/-0.003
4.7.5.4	Measurement resolution ratio	0.001mm
4.7.5.5	Overall dimension	440*100*100(without support)
4.7.5.6	Centering height	1000mm

#### 4.7.6. 4m primary moving water trough and tank

4.7.6.1	4m primary moving water trough and tank	
4.7.6.2	Suitable for wire diameter	Max80mm
4.7.6.3	Centering height	1000mm
4.7.6.4	Material	SUS304 stainless steel

4.7.6.5	Total length	4m movable water trough+0.4m <sup>3</sup> hot water heating tank
4.7.6.6	Moving range	500mm
4.7.6.7	Cooling way	For spray and water immersion, with wire hold trough
<b>4.7.7. 28m Single layer fixed water trough</b>		
4.7.7.2	Suitable for wire diameter	Max 80mm
4.7.7.3	Centering height	1000mm
4.7.7.4	Dimension	U type: 350mmX380mmX2mm
4.7.7.5	Material	SUS304 stainless steel
4.7.7.6	Total length	28m
4.7.7.7	Cooling way	For spray and water immersion, with wire hold trough. Stainless steel U-type single layer water tank;
4.7.7.8	Blow type	Multi-head claw-type blow-drying of the blow-drying head, which is placed in the stainless steel box and connected to the water tank.
4.7.7.9	Drying type	Dry with vortex fan (the vortex air pump uses Wuxi Zhong ce products)
4.7.7.10	There are supporting guide wheels inside, and guide wheels need to be added before and after each section of water tank. All water tanks ensure that the cable is submerged in water.	
<b>4.7.8. Belt Type Meter Counter</b>		
4.7.8.1	Suitable cable Dia.:	Max.Φ90mm;
4.7.8.2.	Length	0~9999m
4.7.8.3	Accuracy	≤±3‰



#### 4.7.9. 25Kv Spark tester

4.7.9.1	Model	ST-25A
4.7.9.2	Dia. range	Φ5- 90 mm;
4.7.9.3	Voltage:	0-25.0KV
4.7.9.4	Accuracy	≤±3‰
4.7.9.5	Detection sensitivity	<600uA
4.7.9.6	Detection resolution	0.05s
4.7.9.7	Max detection speed	300m/min
4.7.9.10	Conform to Japan, the United States, European countries standard or the Great Wall of China certification;	



#### 4.7.10. 1600kgs Belt type Pneumatic caterpillar

4.7.10.1	Max force	1600kg
4.7.10.2	Max speed	100m/min
4.7.10.3	Cable size	Φ10.0~Φ90mm

4.7.10.4	Qty of cylinders	6 pairs
4.7.10.5	Working length	1900mm
4.7.10.6	Width of caterpillar belt	120mm
4.7.10.7	Driving motor	11KW SIEMENS Beide motor
4.7.10.8	Motor control	SIEMSN G120C converter
4.7.10.9	Transmission	Motor with gearbox reducer
4.7.10.10	Total pressure	7.3 kg (6 BAR)
4.7.10.11	Top bottom flat belt haul off, compression and tension by air actuation. Entrance and exit equips with wire guide rollers. Main electrical panel and suspended control panel are on the machine. Electrical components will be SIEMINS and Schneider	



#### 4.7.11. PN1600-3150mm dual-bobbin take up & traversing stand

4.7.11.1	Max design speed	100m/min
4.7.11.2	Suitable wire OD.	Max 100mm
4.7.11.3	Suitable bobbin size	PN1600-3150mm
4.7.11.4	Motor	15KW Siemens AC motor
4.7.11.5	Control	15KW inverter
4.7.11.6	Max. loading weight	15T
4.7.11.7	Portal stand moving motor	2.2KW AC Motor + reducer driving
4.7.11.8	Bobbin lifting motor	2.2KW AC Motor + reducer driving
4.7.11.9	Bobbin clamping motor	1.5KW AC Motor + reducer driving

4.7.11.10	Traverse motor	1.0kw Mitsubishi AC servo motor.
4.7.11.11	Portal rail type structure, reel lifting, clamping or relaxing is by motor.	
	Pintle open-close motion is made by AC motor.	
	Main electrical panel and suspended control panel are on the machine.	
	Electrical components will be SIEMINS and Schneider.	
	Take-up motor is AC motor, controlled by SIEMENS drive. Take-up tension is stable and adjustable.	
	Take up moves for traversing, driven by AC motor, frequency inverter control, traversing speed follows take-up speed, traverse pitch is step-less. Portal take up has fast traversing function.	
	Take up has reel closing protection, reel loading and unloading limit protection, and side way movement limit protection.	





#### 4.7.12. Electrical control system

<b>4.7.12.1</b>	<b>Control system overview</b>	
	Control cabinet	Rittal design, painted colors RAL 7035
	Cabinet size	L(3200)*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>4.7.12.2</b>	<b>Auxiliaries circuits brands</b>	
	Motors	SIEMENS Beide 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>4.7.12.3</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 maintaince; HMI for production monitor
	Alarm information	Motor driver fault; Cooling fan overload; Motor fan overload; E-stop alarm; Wire OD. Overflow alarm;
4.7.12.4	PLC Siemens S7-200 smart connected in Profinet with external and internal components as drives, video-keyboard, and remote PLC, or any other.	
4.7.12.5	Safety relays for emergency kept electro-mechanical outside the PLC.	
4.7.12.6	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.	
4.7.12.7	The software used is custom made to suit all needs for an easy use by the operator or by the technician.	
4.7.12.8	Cooling fan is controlled by the temperature control meter to make the temperature curve straight.	
4.7.12.9	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.	
4.7.12.10	Automatic process control: operated by touch screen and assisted by buttons.	





## 5、 SPARE PARTS

SN	Description	Qty.
5.1	Barrel heater for big extruder head 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
5.12	Whole machine V-BELT	1
5.13	Whole machine synchronous belt	1
5.14	Pneumatic clamp rubber	2

## 6、 ENGINEERING DOCUMENTS

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.**

**2022.06.17**