

## STM-607W Electrical Components List

NO.	Symbol	Name	Specifications	Part No.
1	Q1	Main switch	25A	YE10210300000
2	Q2	Circuit breakers	25A	YE40632500000
3		Excitation break away		YE40000900000
4	K1	Contactors*	230V 50/60Hz	YE00301000000
5	K2	Contactors*	230V 50/60Hz	YE0033000000
6	F1	Overload relays	2.5-4A	YE01025400000
7	F11	Fuse box	32A 2P	YE41032200000
8		Fuse**	2A	YE46002000100
9	S1 S2	Control switch	4P (WH)	YE10210400000
10	К3	Temperature controller	230VAC 50/60Hz	YE85005000000
11	K4	Timer	230VAC 50/60Hz	YE86301000100
12	K5	Middle relay	230VAC 50/60Hz	YE03270700000
13	S3	Overheat protector	250V 5(4)A	YE21503000000
14	S4	Hydraulic switch	AC 230V 12A	YE15102400000
15	PC	Circuit board	230VAC 50/60Hz	YE80000100000
16	Y1	Solenoid valve	230VAC 50/60Hz	-
17	X1	Terminal board		YE61250000000
18		Terminal board		YE61253500000
19		Terminal board		YE6104000000
20		Terminal board		YE61043500000
21	M1	Motor	230V 50/60Hz 0.5kW	-
22	EH1	Heater	230V 50/60Hz	-
23	FM	Fan	230V 50/60Hz	-

\*Indicates latent wearing parts; \*\*Indicates latent wearing parts and it's suggested to back them up.



### STM-910W Electrical Components List

NO.	Symbol	Name	Specifications	Part No.
1	Q1	Main switch	32A	YE10220300000
2	Q2	Circuit breakers	32A	YE40633200000
3		Excitation break away		YE40000900000
4	K1	Contactors*	230V 50/60Hz	YE00301000000
5	K2	Contactors*	230V 50/60Hz	YE0034000000
6	F1	Overload relays	3.2-5A	YE01032500000
7	F11	Fuse box	32A 2P	YE41032200000
8		Fuse**	2A	YE46002000100
9	S1 S2	Control switch	4P (WH)	YE10210400000
10	К3	Temperature controller	230VAC 50/60Hz	YE85005000000
11	K4	Timer	230VAC 50/60Hz	YE86301000100
12	K5	Middle relay	230VAC 50/60Hz	YE03270700000
13	S3	Overheat protector	250V 5(4)A	YE2150300000
14	S4	Hydraulic switch	AC 230V 12A	YE15102400000
15	PC	Circuit board	230VAC 50/60Hz	YE80000100000
16	Y1	Solenoid valve	230VAC 50/60Hz	-
17	X1	Terminal board		YE6106000000
18		Terminal board		YE61063500000
19		Terminal board		YE6125000000
20		Terminal board		YE61253500000
21	M1	Motor	230V 50/60Hz 0.75kW	-
22	EH1	Heater	230V 50/60Hz	-
23	FM	Fan	230V 50/60Hz	-

\*Indicates latent wearing parts; \*\*Indicates latent wearing parts and it's suggested to back them up.



## STM-1220W Electrical Components List

NO.	Symbol	Name	Specifications	Part No.
1	Q1	Main switch	63A	YE10250400000
2	Q3	Circuit_breakers	63A	YE40636300000
3		Excitation break away		YE40000900000
4	K1	Contactors*	230V 50/60Hz	YE00301000000
5	K2	Contactors*	230V 50/60Hz	YE0035000000
6	F1	Overload relays	6.3-10A	YE01631000000
7	F11	Fuse box	32A 2P	YE41032200000
8		Fuse**	2A	YE46002000100
9	S1 S2	Control switch	4P (WH)	YE10210400000
10	К3	Temperature controller	230VAC 50/60Hz	YE85005000000
11	K4	Timer	230VAC 50/60Hz	YE86301000100
12	K5	Middle relay	230VAC 50/60Hz	YE03270700000
13	S3	Overheat protector	250V 5(4)A	YE2150300000
14	S4	Hydraulic switch	AC 230V 12A	YE15102400000
15	PC	Circuit board	230VAC 50/60Hz	YE80000100000
16	Y1	Solenoid valve	230VAC 50/60Hz	-
17	X1	Terminal board		YE61250000000
18		Terminal board		YE61253500000
19		Terminal board		YE61043500000
20		Terminal board		YE61100000000
21		Terminal board		YE61103500000
22	M1	Motor	230V 50/60Hz 1.5kW	-
23	EH1	Heater	230V 50/60Hz	-
24	FM	Fan	230V 50/60Hz	-

\*Indicates latent wearing parts; \*\*Indicates latent wearing parts and it's suggested to back them up.



- 8.26 Main Electrical Components List
  - Overload relay

Description of overload relay:

- 1) Terminal for contact coil A2.
- 2) Setting current adjusting scale.
- 3) Reset (blue).
- H: manual reset
- A: automatic reset
- 4) Switch position indication(green).



Tripping off of a manual-resetting is indicated by a pin projecting at the front plate.

- 5) Test button(red).
- 6) Auxiliary contact terminals shown in 95.96.97.98.

NC and NO contacts are shown in position 95.96. and 97.98. respectively.

 Main circuit connection No. must correspond with terminal number of contactor.

At delivery, the overload relay is set for manual reset. (the reset button pointing to H). Manually reset the relay at the tripping off of the switch. When motor overload occurs, stop the machine. Check and solve the problem first. Then open the door of control box, press down the reset button of overload relay. (if you can not press down the reset button, wait for one more minute)



# 9. Installation and Debugging

### 9.1 Installation Space

During installation of the machine, keep at least 500mm installation space around the machine as shown by the picture. Do not install the machine in a position crowded with other objects. This would cause inconvenience to operation, maintenance and repair.

Do not sit on the machine.

Keep away flammable and explosive goods.



## 9.2 Mould and Water Couplings

1) When connect mould coupling with pipes from the mould. Use a spanner to secure one end of the coupling, insert mould connecting pipe and fasten it by another spanner.





- 2) Unused mould couplings can be connected with each other by a teflon pipe, as shown in.
  - Note! Cooling water inlet and outlet as shown by the . Please do not connect reversely. Please connect the coolng water outlet with high temperature resistant pipe when temperature is above 100 °C.
- Connect cooling water inlet with water supply and cooling water outlet with a drainage pipe. After that, turn on water supply.





Cooling water outlet Cooling wate inlet

## 9.3 Power Supply

Make sure that power supply is the same as required before installation. Mould heaters are generally set to be used with  $3\Phi400V$  power supply or other specifications according to customers' requirement.



# 10. Application and Operation

10.1 Control Panel



		<u> </u>	
No.	Name	Functions	Remarks
1	Power supply indicator	Connect the machine with power supply and turn on main switch. This indicator turns green.	Note! Do not remove any electrical parts or terminals after the power is on.
2	Phase reversal alarm	When phase reversal or phase shortage occurs, it becomes red. The buzzer sounds, and system stop working.	Turn off the machine. Exchange the place of two of the electrical wires of main power supply.
3	Motor overload alarm	When motor current exceeds the limits, the buzzer sounds. Motor overload alarm is red and system stops working.	Check that if motor shaft is blocked or the bearing is broken or setting current of overload relay is too low. After the problems solved, wait for one minute and then press the blue RESET button to reset the overload relay and clear the alarm.
4	Overheat alarm	When oil temperature is higher than EGO (temperature sensor) setting value, this indicator becomes red. The buzzer sounds and system stops working.	EGO setting value should be higher than temperature settings of temperature controller. Check if there are problems of temperature detecting probe.
5	Low level alarm	When there is circulating water shortage, the alarm light will become red. The buzzer sounds and system stops working.	Ensure smooth water supply.
6	Temp. controller	Temperature setting and control.	
7	Pump switch	Turn on and off the pump.	Note: motor rotating direction should be correct.
8	Heater switch	Turn on and off the heater.	Heater switch is applicable only after pump is turned on.





No.	Name	Functions	Remarks
1	Power supply indicator	Connect the machine with power supply and turn on main switch. This indicator turns green.	Note! Do not remove any electrical parts or terminals after the power is on.
2	Phase reversal alarm	When phase reversal or phase shortage occurs, it becomes red. The buzzer sounds, system Could not be activated.	Turn off the machine. Exchange the place of two of the electrical wires of main power supply.
3	Motor overload alarm	When motor current exceeds the limits, the buzzer sounds. Motor overload alarm is red and system stops working.	Check that if motor shaft is blocked or the bearing is broken or setting current of overload relay is too low. After the problems solved, wait for one minute and then press the blue RESET button to reset the overload relay and clear the alarm.
4	Overheat alarm	When oil temperature is higher than EGO (temperature sensor) setting value, this indicator becomes red. The buzzer sounds and system stops working.	EGO setting value should be higher than temperature settings of temperature controller. Check if there are problems of temperature detecting probe.
5	Low level alarm	When there is circulating water shortage, the alarm light will become red. The buzzer sounds and system stops working.	Ensure smooth water supply.
6	Temp. controller	Temperature setting and control.	
7	Pump switch	Turn on and off the pump.	Note: motor rotating direction should be correct.
8	Heater switch	Turn on and off the heater.	Heater switch is applicable only after pump is turned on.
9	Drainage switch	Press this button when system needs vacuum drainage.	Notice: Execute drainage after turn on manual release valve.



## 10.2 Machine Startup

- 1) Pipe connect the inlet and outlet of the standard water heater to the pipe of mould.
- 2) Connect the cooling water inlet /backup water inlet.
- 3) Turn all the ball valves on.
- 4) Turn on the main power switch.









- 6) Turn on the heater switch.
- 7) Set mould temperature (if it is already set, neglect this step.) Press
  - ▲ ▼ to set the temperature. For STM W series, maximum

temperature setting value is 120°C.



- 8) Overtemperature setup for system cooling: set as +1°C before delivery, which means that whenever actual temperature exceeds setting value by 1°C, cooling system will be automatically activated.
- 10.3 Stop the Machine
  - 1) Switch off heater power.
  - 2) Wait until oil temperature falls below 50°C, turn off pump switch.
  - 3) Turn off main switch.





Warning! When main switch is turned on, be careful of electrical shock.

Note! Pump motor rotating direction should be the same as indicated.

Note! In order to prolong machine life, please do as above steps to turn on and off the machine.

10.4 Temperature Controller

Temperature controller control panel



10.4.1 Temperature Controller Display

- Practical value: display practical temperaure value or parameter code of temperature controller.
- Setting value: display set temperature value or parameter value, or display input value when you set parameters.
- Operation indicator.
- 1 ALM1 (alarm 1)

This indicator becomes bright to indicate that heater 2 has stopped working. Alarm 1 function is used to control pipe heater 2. When actual temperaure is  $5^{\circ}$  less than setting value, heater 2 will be cut off. (Only for machine with dual-heating zone )



② ALM2 (alarm 2)

Alarm 2 function is not used on this unit.

3 ALM3 (alarm 3)

Alarm 3 function is not used on this unit.

④ HB (heater break)

When heater break is detected, this indicator will become bright.

- (5) OUT1(output control 1) OUT1 is used for heating control. When it is bright, it means that pipe heater is working.
- ⑥ OUT2 (output control 2) OUT2 is used for cooling control. When it is bright, cooling water valve is open and cooling function is in process.
- 7 STOP (stop)

When stop indicator is bright, it means that temperature controller is not working. Temperature controller operation mode is set to STOP. Note! Do not set operation mode to stop, which will force temperaure controller to stop working.

- 10.4.2 Keys on Control Panel
  - (Menu) press this key to show the items you want to reset.
  - (mode) press this key to choose a parameter.
  - (increase value) press this key to increase setting val
  - (decrease value) press this key to decrease setting value.
- 10.4.3 Choose a Parameter

Press control to choose a parameter or switch to next parameter.

- 10.4.4 Comfirm Your Setting
  - Press a to come back to the first parameter if current screen shows the last parameter.
  - 2)Press ▲ and ▼ to adjust the value of parameters.
     Keep the parameter unchanged for at least 2 seconds or press ♀ to confirm your setting.





- 3) Confirm your setting when changing to another menu.
- 4) Before power supply is cut off, press 🕢 to confirm your setting.



# Attention!

Before delivery, the parameters of temp. controller are set already. Do not reset the parameters unless it is necessary.



# 11. Trouble-Shooting

Γ		Failures	Possible reasons	Solutions
	1	Main power indicator does not become bright after main switch is turned on.	Did not connect through power supply. Main switch broken. Power supply wires problems. Control circuit fuse melt. Transformer broken.	Connect through power supply. Replace main switch. Check electrical wires. Fix the fuse. Replace the transformer.
	2	Both power and phase reverse indicator are bright after the main switch is turned on. The buzzer sounds to raise alarm.	Power supply low voltage. Phase shortage. Phase reversal. PCB problems.	Check power supply. Check power supply. Exchange two of the wires of power supply. Replace the PCB.
	3	Motor overload relaly is bright. The buzzer sounds and system stops working.	Abnormal fluctuations of power supply. Pump blocked. Pump motor problems. Overload relay (F1) setting value error.	Check power supply. Check pump. Check pump motor. Set the setting current of overload relay to equal to 1.1 times of motor rated current. Please refer to page 10-15 for detailed description of overload relay. Reset overload relay: wait for one minute, then press the blue button to reset.
	4	Overheat indicator is bright. The buzzer sounds and system stops working.	EGO temperature setting mistakes EGO poor temperature detecting. Heater contactor K1 and K2 problems.	Correctly set EGO temperature. Replace the contactor.
	5	Low level indicator is bright. The buzzer sounds and system stops working.	Low pressure of of water supply. Pressure switch problems.	Increase the pressure of water supply. Replace pressure switch.
	6	Main switch indicator won't become bright after turning on main switch. Pump can not start when turning on pump switch.	PCB output relay problems. Pump switch problems. Time relay (K5) problems. Electrical circuit problems.	Check or replace the PCB. Replace the switch. Replace time relay. (K5) Check electrical circuit.
	7	No display of temperature controller after turning on pump and heater switch.	Heater switch problems. Temperature controller problems. Electrical circuit problems.	Replace the switch. Replace temperature controller. Check electrical circuit.
	8	Differences between setting temperature and actual temperature is too big.	Too short time after machine startup. Temperature parameter setting error. Cooling water valve problems.	Wait for a while. Check temperature parameters. Reset incorrect parameters with reference to chapter 6.5. Replace solenoid valve.
	9	Temperature can't rise up.	Heater contactor problems. Heater problems. Thermocouple problems. Temperature controller operation mode set to STOP. Temperature output problems.	Replace the contactor. Replace pipe heater. Replace thermocouple. Set temperature controller to working mode. Replace or repair temperature parameters.
	10	Circuit breaker tripping off at turning on main switch.	Short circuit of main circuit. Transformer short circuit or connected with earth wire. Problems of circuit breaker.	Check electrical wire. Replace circuit breaker.
	11	Circuit breaker tripping off at turning on pump switch.	Pump motor coil short circuit. Problems of circuit breaker.	Check pump motor. Replace circuit breaker.
ľ	12	Circuit breaker tripping off at turning on pipe beater switch	Pipe heater short circuit or contact with heating tank. Problems of circuit breaker	Check electrical circuit. Replace circuit breaker.



# 12. Maintenance and Repair

Pay attention to the following rules during maintenance:

- Need at least two persons present when checking the machine. Let the machine cool down, turn off power supply, drain out the oil and water. Make sure enough place before checking and maintenance.
- 2) The machine works in high temperature. Stop the machine, wait it to cool down. Put on protective gloves before servicing or maintenance.
- 3) In order to prolong the life of the machine and to prevent accidents, check the machine at a fixed frequency.
- 4) During operation, the water is heated up to a high temperature, wait it to fall below 30°C to perform repairing or maintenance. (Please note that it is dangerous to check or tear down the machine during operation.)
- 12.1 Open the Covers
  - 1) Open the top covers of the unit. (Refer to the pictures below)





2) Take down the side covers. (Refer to the pictures below)





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3) Open the cover of control box. Screw off two butterfly screws to unlock the cover. (Refer to the pictures below)





- 12.2 Y Type Strainer
  - Clean soft water should be used as cooling water. Filter screen is used in the strainer to stop impurities and pollutants to enter into water pipe.
  - Impurities or pollutants may cause errors and bad temperature control. Clean filter screen of the strainer periodically.
  - Cleaning steps: turn off power and cooling water supply. Open the top cover of filter screen to clean the filter.
- 12.3 Solenoid Valve

Replace solenoid valve:

- 1) Open machine top cover.
- 2) Take down right side cover.
- 3) Unfix the solenoid valve for replacement.
- 4) Install the covers in a reverse order.



Y type strainer





Solenoid valve





## 12.4 Pipe Heater

1) Open machine rear cover door. (Refer to pictures below)





2) Unlock heater cap. (Refer to pictures below)





3) Unlock the screws of pipe heater to take it out. (Refer to the pictures below.)





4) Install the pipe heater in a reverse order.



- 12.5 By-pass Ball Valve
  - 1) Shut down by-pass ball valve if pressure guage shows too low water pressure.





# 12.6 Maintenance Schedule

12.6.1 About the Machine			
Model:	SN:	Manufacturing date:	
Voltage:0V	Frequency: Hz	Total power:	kW
12.6.2 Check after Installati	on		
Check the installation	space is enough as re	quired.	
Check the pipes are c	orrectly connected.		
Electrical Installation			
Voltage:	VHz		
Fuse melting current:	1 PhaseA	3 Phase A	
Check phase sequen	ce of power supply.		



# 12.6.3 Daily Checking

11		<u> </u>	<u>   </u>
	Check machine startup function	Check machine startup function	Check machine startup function
	Check all the electrical wires	Check all the electrical wires	Check all the electrical wires
11	_1	<u> </u>	1.1
	Check machine startup function	Check machine startup function	Check machine startup function
	Check all the electrical wires	Check all the electrical wires	Check all the electrical wires
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	Check machine startup function	Check machine startup function	Check machine startup function
	Check all the electrical wires	Check all the electrical wires	Check all the electrical wires
		<u> </u>	1.1
	Check machine startup function	Check machine startup function	Check machine startup function
	Check all the electrical wires	Check all the electrical wires	Check all the electrical wires
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		Check machine startup function	Check machine startup function
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# 12.6.4 Weekly Checking

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1	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function
	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function
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	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function
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	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function	Check machine startup function Check allth e eletrical wires Check loose eletrical connections Check and clean Y type strainer Check solenoid valve Check motor overload and phase reversal alarm function



#### 12.6.5 Montly Checking





## 12.6.6 Half-yearly Checking





# Local Warranty Statement

- 1. Local warranty applies to the country of purchase only. Once the product is transited out of the country of purchase, this warranty is invalidated.
- 2. The warranty is only applicable to the original purchaser and in the country of purchase.
- 3. The warranty covers parts and labour only; and excludes freight and on-site call-out charges.
- Your SHINI product is guaranteed against manufacturing defects for a period of twelve (12) months from the date of purchase locally unless stated otherwise.
- 5. The warranty shall immediately cease and become void if the product is found to have been modified or repaired by an unauthorized person.
- 6. The warranty is subjected to the following limitations and exclusions:
  - (a) Malfunctions or damages resulting from not complying with the recommended manner as outlined in our operation manual in relation with the application, installation, operation and maintenance.
  - (b) Defects from using wrong electrical supply, misuse or damage by negligence and abuse.
  - (c) Malfunctions or damages resulting from natural disaster, fire, civil unrest and/or accidents.
  - (d) Wear parts and accessories.
- If your SHINI product is not the same place of purchase, you can still send the product to your local SHINI's branch or distributor for servicing at your full costs according to the individual country service policy.
- If there is no SHINI's branch or distributor in your country, although obviously there is no warranty covered by SHINI, you may direct contact SHINI requesting for the supply of replacement parts at your full costs.
- All the electricity installation ,connection and maintenance should be carried out by the specialists or contact SHINI or its local agents.



10.	The warranty is deemed valid only	if the followings are	e completely	filled in:
F	urchaser's name and address:			

Your supplier's name and address:

(company stamp)

Product model:	Serial number:	

Invoice Number: \_\_\_\_\_ Date of purchase: \_\_\_\_\_

Please send all queries and comments to:

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#### 制造工厂

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- 东莞 / 中国
- 宁波/中国
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- Taipei / Taiwan
- Dongguan / China
- Ningbo / China
- Shanghai / China
- Mumbai / India

