Model-1600 High Speed BOPP Coating Machine

Operation Manual

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Operator precautions

(1) Please read the instruction carefully before use this coating machine, operate and adjust it according to the specified program.

1. Operators should not have long hair;
2. Coverall should not too loose, cuff should be tighten;
3. Do not touch the movement when the machine is running, in case of being hurt;
4. Do not wipe the roller when the machine is running and have electricity;
5. Nonprofessional electrical maintenance personnel should not open electric cabinet, touch the electrical components;
6. When install power, the power cord should not use the same power switch with other power cord;
7. The frame and electric cabinet must be reliable grounding, lest have an accident;
8. Power should be cut off before maintain and repair the machine;
9. If have fault and difficult problem you can not solve by yourself when in use, please call the company consult telephone in time to avoid taking apart mechanical and electrical components.

Contents

Please operate the coating machine after read this instruction carefully!

1. Application

This coating machine is suitable for producing professional BOPP packing tape.

2. Characteristics

◇ Oven adopts high axial flow fan featuring high drying efficiency and designed with the multi-stage temperature control to accurately control the temperature at each zone of the oven in accordance with the technical requirements.

◇ Multi-stage tension control, adopts converter or digital DC speed control system, and the multipoint synchronous controller is also used to control synchronous operation of the unit.

◇ EPC is adopted to ensure the edges of finished product orderly.

◇ Rewinding and unwinding system can automatically cut and join the tape without stopping the system to feed paper, thus having a higher efficiency.

◇ Transfer type coating: high precision and quick speed.

3. Main technical parameters (See Table 1)

Table 1: Main Technical Parameters

External size（length*width*height）	35000*5500*4700（mm）
Effective coating width	1300mm
Max. Unwind diameter	800mm
Max. Rewinding diameter	600mm
Highest mechanical speed	150m/min
Paper core	3”(76.2mm dia.)
Oven length(Total)	28000mm
Heat source	Steam
Total power	～65kW
Power supply	380V, 50Hz
Air source	6kgf/cm^3

4. Construction

The stands are assembled with sectioned steel and steel plates, super stratum used to install the arch oven, air pipe and cable piping, etc. According to technological process, the lower frame equip with the overall rectification unwinding and its film splice structure, ironing structure, coating die, cooling

structure, rewinding film splice structure, rewinding structure and main control cabinet. A brief introduction of each partial structure is as follow.

4.1 Unwinding structure (Fig.1)

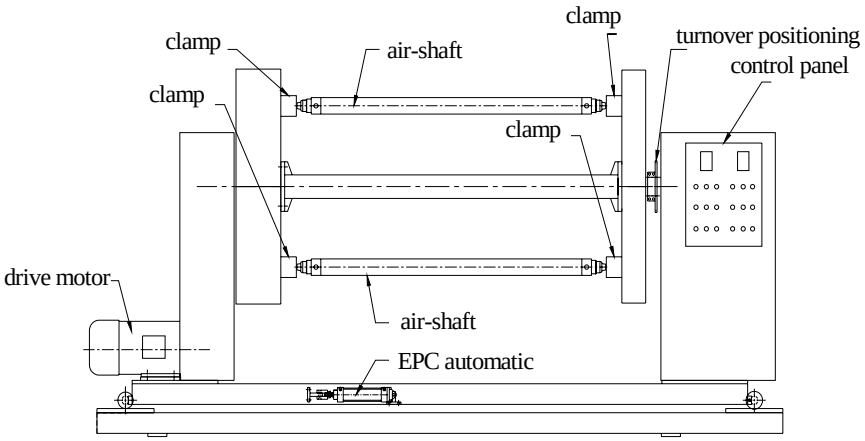


Fig. 1

4.1-1: Unwinding system is designed as 2-shaft turret structure, use air shaft with pneumatic clamps at both sides to fix the original reel.

4.1-2: Air shaft should match with clamp when installing. Operate pneumatic valve respectively in the both sides of same station. Pay attention to safety (Do not put hands or other things in the matched place).

4.1-3: The whole unit automatic rectification, especially pay attention to the consistency of each reel's edge to ensure the smooth production.

4.1-4: Turnover positioning have been adjusted well before leave factory. Do not adjust it during operation.

4.2Unwinding & Splice (Fig. 2)

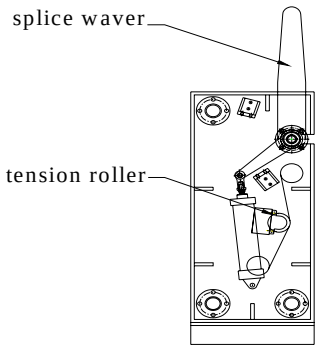
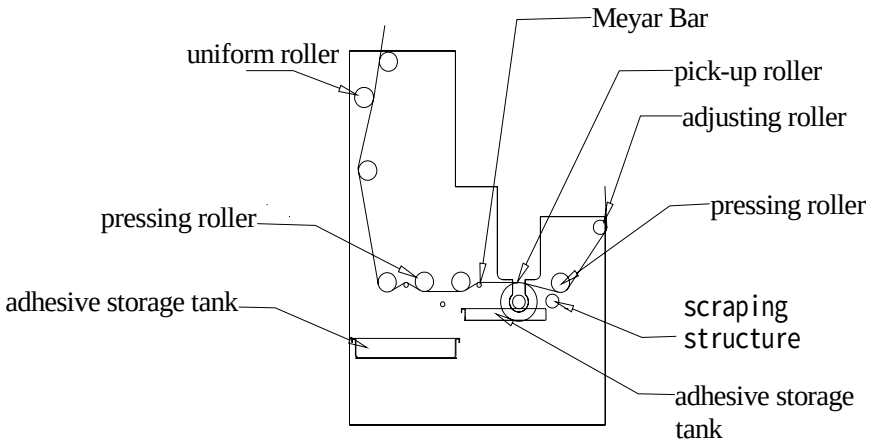


Fig.2

4.2-1: Unwinding film-splice structure used for old and new materials to splice film automatically in the state of non-stop and non speed reduction. When film-splice is on automatically, the diameter of the original reel must be 275 ~ 800.

4.2-2: Film-splice arm is equipped with pneumatic pressing roller and pneumatic cutters, thus the splice is completed automatically. At this time, body or foreign body should not access to the working area. Photoelectric switch used to inspect reels is installed on the arm and should not be adjusted at will (or it may affect the splice).

4.3 Mayer Bar Coater (Fig. 3)

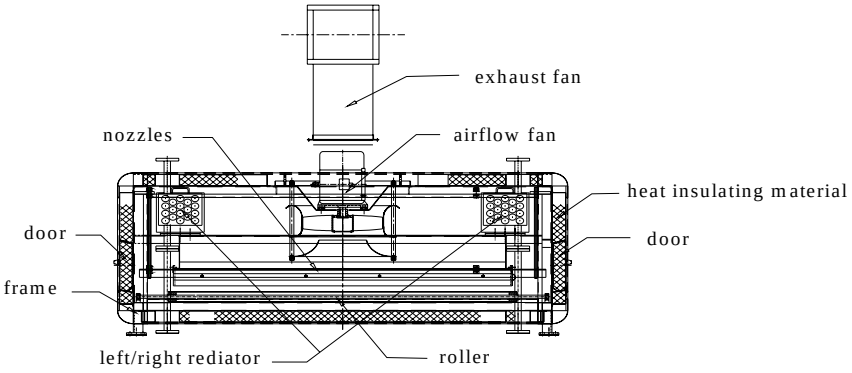


4.3-1: The speed of uniform roller, Mayer Bar and pick-up roller can be varied individually according to coating condition in production. Baffled board which can be adjusted left or right is used to scraped adhesive. The board may press on or separate from the roller's surface.

4.3-2: Mayer Bar is used to control coating amount and change the glue quantity under a certain circumstance of material contrite and material tension. In daily maintenance, the Mayer Bar can be easily replaced.(The user only needs to open the drill chuck which is used to fix the Mayer Bar).The Metal base and plastic support used to install the Mayer Bar can be cleaned after being removed out. Do not damage the locating datum, only loose the fasten bolt).

4.3-3: As the glue piping has been installed at the bowl, the user needs to make it butt joint with the feed pipe.

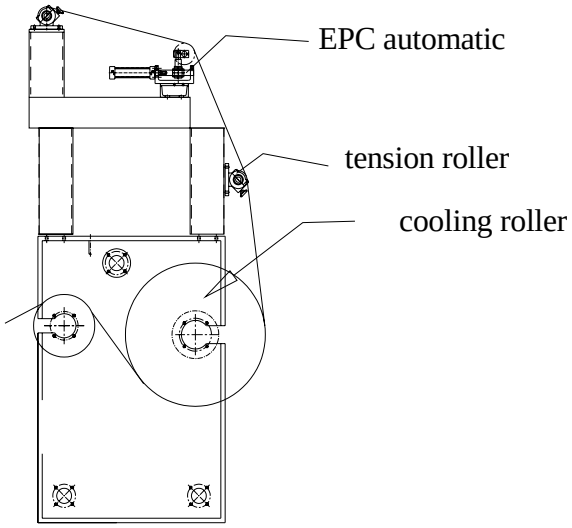
4.4 Adhesive drying Oven (Fig. 4)



4.4-1: The drying oven includes left and right heating system,. After installation, keep the temperature of air-in and air-out pipes still the same. Adjust the air- exit to control the balance of airflow according to technical condition in production. Pay attention to safety (such as burns).

4.4-2: When checking and maintaining, move out the axial flow fan and radiator in the heating section of oven after being dismantled. When cleaning the heating nozzles, the user must remove the removable part of oven plate. And then re-assemble after cleaning..

4.5 Cooling system (Fig. 5)



Main components of cooling system in Fig. 5..

4.6 Rewinding film-splice structure (Fig. 6)

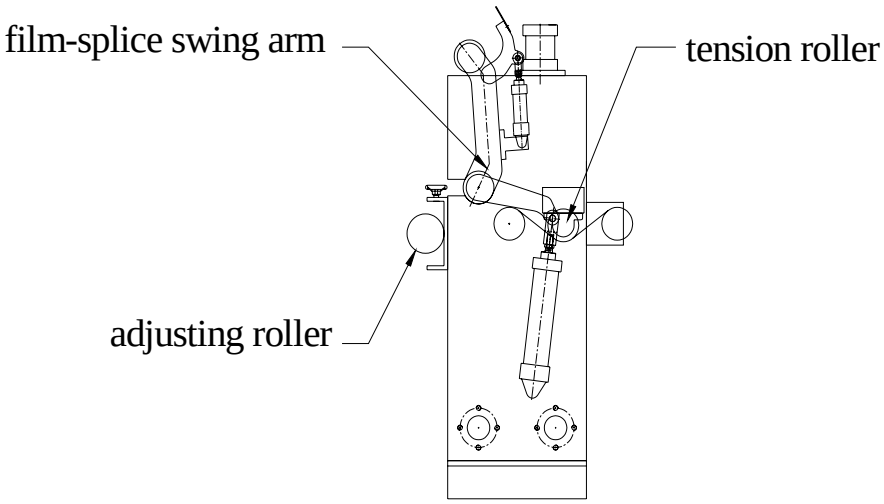


Fig. 7

4.6-1: The main function of rewinding film-splice structure is to exchange the rewinding shafts automatically when the equipment is working at full speed..

4.6-2: Film-splice arm is working automatically out of being equipped with pneumatic pressing roller and pneumatic cutters. At this time body or foreign body shouldn't access to the working area.

4.6-3: Photoelectric switch used to inspect reels is installed on the arm and should not be adjusted at will (or it may affect the splice).

4.7 Rewinding structure (Fig.7)

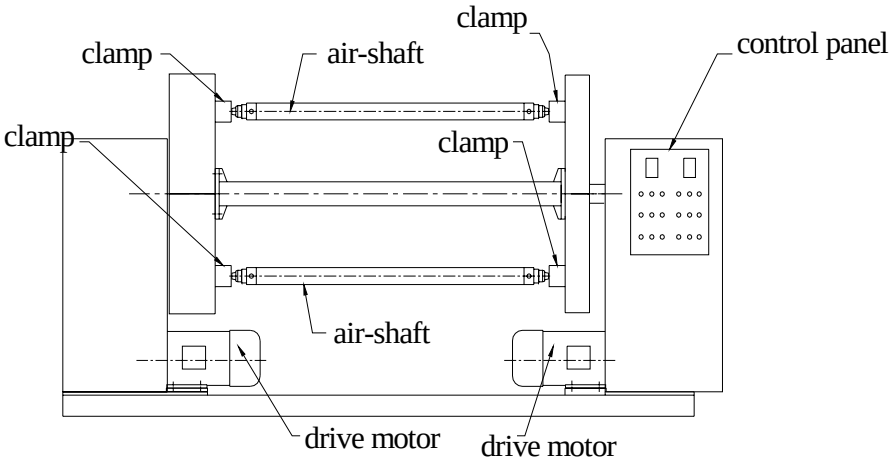


Fig. 7

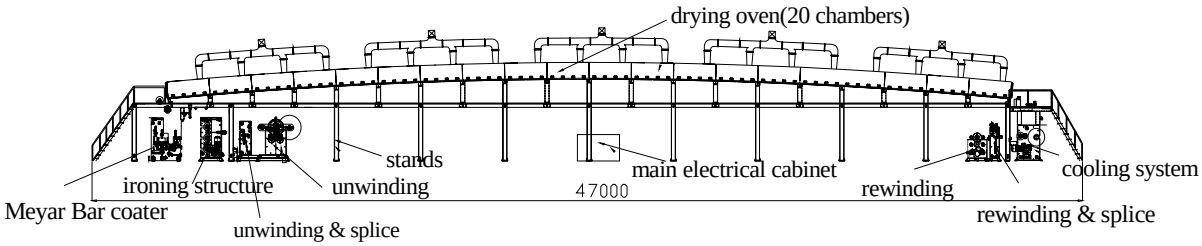
4.8-1: Unwinding system is designed as 2-shaft turret structure, use air shaft with pneumatic clamps at both sides to fix the original reel. Air shaft should match with clamp when installing. Operate pneumatic valve respectively in the both sides of same station. Pay attention to safety (Do not put hands or other things in the matched place).

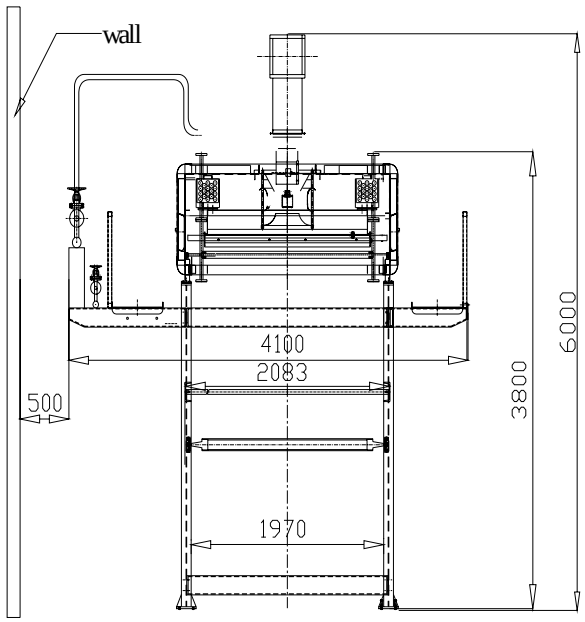
4.8-2: Turnover positioning have been adjusted well before leave factory. Do not adjust it during operation.

5. Processing flow (Fig. 9)

unwinding→ironing→coating→drying→cooling→rewinding

6. Installation & Adjustment (Fig. 10)





The equipment must be placed as specified in Fig. 10 (the installation is related to the daily maintenance of equipment)

6.1When unpacking, there must be no scratches on the surface of

high-precision roller and rubber roller, and the thin-walled roller(such as cold roller, idle roller)shouldn't be bumped to avoid deformation.

6.2 Users must provide flat cement court and inlets of water, electricity, gas and ventilation tube according to the requirement of installation diagram in advance.

6.3 When install the whole unit, the user should first install the component below frame in position according to the plane installation diagram, and then install crossbeam, and the drying oven and components on stands at last.

6.4 Based on the levelness and parallelism of coating roller, correct that of all idle rollers, pressing rollers and cooling rollers.

6.5 Make sure that all idle rollers and transmission parts run flexibly without clamping stagnation.

6.6 Pass 6kg/cm^2 compressed air through pipes, no air leakage. After assembling the whole line, test it without reels.

6.7 After debug, the configuration and main technical parameters should comply with the performance requirement stipulated in the contract.

7. Operation

7.1 preparation work

7.1.1: Switch on the power supply, air source and heat source;

7.1.1-1: Start exhaust fan, and confirm the fan work normally

7.1.1-2: Set the temperature of each chamber in the drying oven, according to the processing requirement;

7.1.1-3: Start each circulation fan in drying oven;

7.1.2: Check the work of each drive chain;

7.1.3: Wipe up the surface of each roller;

7.1.4: Fix the original reels in unwinding position

7.1.5: Load new paper core, and adjust the initial position

7.1.6: Load the original reel on the paper core of rewinding structure according to process chart, fastened with adhesive tape.

7.1.7: Clean the adhesive storage tank, and put filtered adhesives in it.

7.1.8: According to amount of adhesives, choose Mayer Bar of different specifications.

Table 2: Selection for Mayer Bar
(adhesive concentration 55%; coating speed V≥150m/min)
¢A、¢B : steel

	350	400	500	600	700	800	1000	*1200*
250	10 ～							

	15							
350		12 ～ 18						
400			15 ～ 20					
500				18 ～ 22				
600					20 ～ 25			
700						23 ～ 28		
800							25 ～ 30	
1000								*28 ～ 35*

Note: Value £ of coating amount above is only for reference; it is also affected by variable parameters such as mechanical speed, tension, Mayer bar contrite, performance of adhesives.

7.1.9: Set “coating roller” to “manual control” mode, start “steel wire rod A,B” confirm its operation normally.(The original reel and Mayer bar B run in the same direction, while Mayer bar A in the inverse direction).

7.1.10: Start the unwinding and corresponding rewinding shafts, raise the tension of original reel at unwinding and rewinding in a steady rate to the set-value.

7.2 Operation

7.2-1: Raise the adhesive tank, make the coating roller immerse into adhesive about 10mm below.

7.2-2:Press“startup automatically” button and “synchronous up/down speed” button at the same time to make the original reel runs slowly; raise the speed to above 200m/min and stably operate for a period(about 5 minutes); at the time, adjust the tension of the original reel; control the tension at the coater by “coater-tension adjust” button. Rewinding and unwinding tension are respectively controlled by “rewinding tension” Button and “unwinding tension” Button. Pay attention to location of EPC detector.

7.2-3: Adjust the right/left baffled board.

7.2-4: According to drying condition, increase the machine speed slowly up to the required. Control the adhesive amount(adjust the speed of coating roller).Do not leave too much adhesive that beyond the control of baffled-board.

7.2-5: Confirm the parts mentioned above operate normally, start uniform

roller and make it press on the original reel with adhesive and adjust its speed slowly; at this time pay inspect the quality of coating surface. When the surface is relatively smooth, it is the most appropriate coating speed.

7.3 Stop the equipment

7.3-1: Cut off the equipment at normal: first press “synchronous up/down speed” Button, lower the speed (about 20m/min), and then press “stop” Button. In case of fault and quality problems during operation, press the “emergency stop” Button.

7.3-2: “up and down cylinder A/B” in the coater and cylinder of uniform roller will self-disengage to separate the original reel from pick-up roller, Mayer bar and uniform roller.

7.3-3: The pick-up roller, Mayer bar and uniform roller work individually to prevent adhesive drying up.

7.3.4: After eliminating the fault, reset and confirm the film moves normally, then start “up and down cylinder A/B” and uniform roller.

8. Precaution

8.1-1: Before start the equipment, switch on the exhaust system at first, or the equipment can not start.

8.2-2: Make sure power supply, heat source, air source and cooling source of each working line in good state.

8.3-3: If the equipment works normally, operators should strengthen tour-inspection of each parts. Solve in time in case of fault.

8.3.3-1: Adhesive storage tank should guarantee the quantity of adhesives.

8.3.3-2: rewind and unwind structures should be timely ready for rewinding shafts or raw material reel.

8.3.3-3: Confirm the EPC device in cooling system is normal, prevent original reel being out-course of EPC detection probe.

8.3.3-4: The tension values of the original-reel’s in coater and rewind & unwind should conform to the normal process requirements.

8.4: Cut off heat source prior to switch off the machine, turn off the exhaust system after the temperature of drying oven falls below 50°C..

8.5: Equipment part paste prohibited mark

Graphic marking	Description	Reference documents

	Caution, danger	ISO3864:1984 No B.3.1
	Danger! Electric Shock	ISO3864:1984 No B.3.6
	Caution, mechanical Injury	
	Caution, injure hand	
	Caution, handing	
	Caution, scald	

9. Maintenance

9.1 Coater, pick-up roller and Mayer bar must be wiped clean everyday.
9.2 Drive chain should often refuels lube, refuels lube in each bearing in periodic time (especially the drying oven, maintain every 2 shifts).
9.3 As for three major pneumatic items, operators must discharge water and add oil when working everyday..
9.4 Check the working state and tightness of drive chains, flat belts in oven and transmission synchronous belt.
9.5 Keep the electrical control cabinet tidy and neat.

10. Management for Common Faults (Table 3)

Table 3: Management for Common faults

Faults	Reasons	Measures
1. breakage of original film	Tension for rewinding is too large. Joint is not firm.	Reset the tension. Joint the film again.
2.original film wrinkle	Tension is too large. Stay too long in the oven. Rewinding tension is too large. Distance between rewinding shaft and former roller is too large.	Adjust tension Adjust speed Lower the motor voltage. Adjust the distance.
3. off-set in unwinding	Rewinding tension is not correct. Deviation of material-film's thickness is large. Fault of EPC device.	Adjust rewinding tension. Replace material-film. Eliminate fault in time.

11. User-prepared parts:

11.1: Pipes for air compressor (or air pressure station) and overboard to the machine's body;
11.2: Heat transfer oil source;
11.3: Main pipe of transfer oil to header pipe(nominal diameter DN80) of machine's body, as well as relevant valves and control instruments.
11.4: header pipe (dia. 1.0") for cooling water and relative valve.
11.5: Blower pipes from exhaust fan in coater to airflow pipes in coater..
11.6: Heat insulating materials for pipes of heat source..

12. Electrical safety & Attention

12.1 Installing:

12.1-1 electrical control cabinet should be keep away from combustible materials and guarantee heat dissipation.
12.1-2 Do not leave short cut-off wire or screws in electrical cabinet, otherwise they may damage the electrical components.

12.2 Wiring

12.2.1 Completed by professional electrical engineer.

12.2.2 Before wire-connection or maintenance make sure the power supply is cut down to avoid electric shock risk.

11.2-3 Make sure the connection of grounding terminals is reliable, to avoid electric shock.

12.3 Before energization

12.3-1 Check whether the voltage levels comply with applicable voltage of the coating line.

12.3-2 Check all circuits.

12.4 After energization

12.4-1 Don't touch the electrical components and circuits around to avoid electric shock.

12.4-2 Don't change parameters of inverter and PLC program as it may damage the equipment.

12.5 In running

12.5-1 Do not access to the transmission device when the coating line is running or it may cause injury.

12.5-2 Do not touch the cooling fan and discharge current to check the temperature, or it may cause burns.

12.5-3 Non-professionals do not detect signals in working, or it may cause injury or damage to the equipment.

12.5-4 Avoid dropping things in the equipment lest cause damage to it.

12.6 Maintaining

12.6-1 Do not repair or maintain equipment without cutting off the electricity to prevent electric shock and mechanical injury.

12.6-2 Dismantle the frequency converter after the number-showing lights in it goes out. Otherwise, the residual electric charge may cause damage to people!

12.7 Attention

12.7-1 Motor insulation inspection

After being placed for a long time, the coating equipment should take inspection before using and regularly checks, in case of mal-function of motor insulation, causing damage of frequency converter and current leakage.

12.7-2 Usage beyond rated voltage value

The coating line should be used under the voltage scope specified in this manual. Or it may damage the electrical components in the coating line. If necessary, please adjust the voltage by using

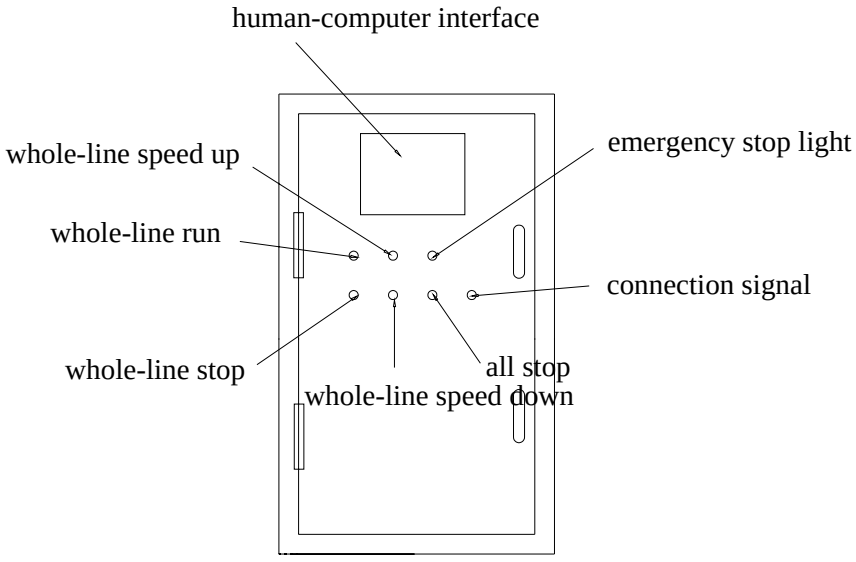
corresponding booster or step-down voltage devices.

13. Electrical operation specification

13.1 Operation of Control panel

13.1.1 Control panel of Coater electrical cabinet

Labell



13.1.1.1 connection signal

This dynamic controlled button is used to control electric bell which transmit various operation information.

13.1.1.2 whole-line run, whole-line stop

They are the buttons used to start and stop the whole coating line. After startup automatically, press “stop” button to make the whole unit smoothly slow down to stop. At this time, tense the film to setting tension without stopping the unwinding and rewinding machines.

emergency stop

A button which can make all transmission stop instantly.

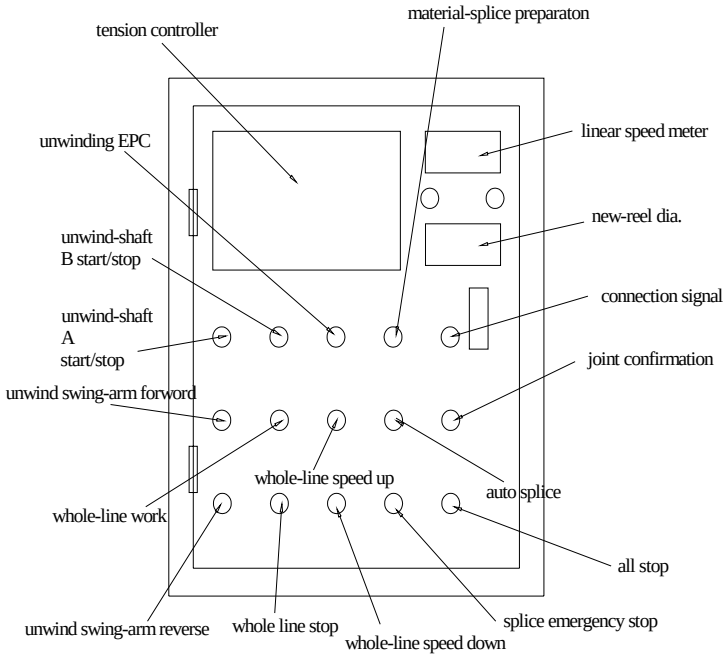
13.1.1.3 whole-line speed up, whole-line speed down

They are dynamic controlled buttons to raise and lower the speed of the whole coating line. And this button can help adjust the speed of synchronous motor.

13.1.1.4 human-computer interface

It’s used to start and stop the circulation fan and exhaust fan, show the length of rewinding shaft A/B and the linear speed and faults of the equipment.

13.1.2 Operation panel of unwinder



13.1.2.1 connection signal

This dynamic controlled button is used to control electric bell which transmit various operation information.

13.1.2.2 whole-line run, whole-line stop

They are the buttons used to start and stop the whole coating line. After startup automatically, press “stop” button to make the whole unit smoothly slow down to stop. At this time, tense the film to setting

tension without stopping the unwinding and rewinding machines.

emergency stop

A button which can make all transmission stop instantly.

13.1.2.3 whole-line speed up, whole-line speed down

They are dynamic controlled buttons to raise and lower the speed of the whole coating line. And this button can help adjust the speed of synchronous motor.

13.1.2.4 shaft A on/off, shaft B on/off

They are buttons to start and stop the inverter A and B. When replace reels automatically, new shaft will start and the old shaft will stop by themselves.

13.1.2.5 arm forward

The press type button is used to control turn-over of unwinding frame forward and reverse.

arm reverse

It's used to control the reversing of reel.

13.1.2.6 material-splice preparation

Press "roll changing" button when changing material-reels, rotation arm overturned in place automatically and cease at last. Meanwhile, new shaft automatically open and pressed by pressing roller to prepare for splicing film.

13.1.2.7 automatic splice

When the film-splice preparation is completed, press "roll changing" button. At this time, 0.2 seconds later after pressing roller press down the cutters cut. Then, the arm uplift and the old shaft stop working, thus the film splice action completes.

13.1.2.8 joint confirmation

This button works if anything abnormal happens in the process of changing reels,

13.1.2.9 tension controller

It's used to show material's tension value (in *kgf*) in rewinder, set and adjust the tension for rewinding. The clockwise direction is for increasing, counterclockwise direction is for reducing.

13.1.2.10 linear speed meter

It's used to show the linear speed of material-reel(in *m/min*).

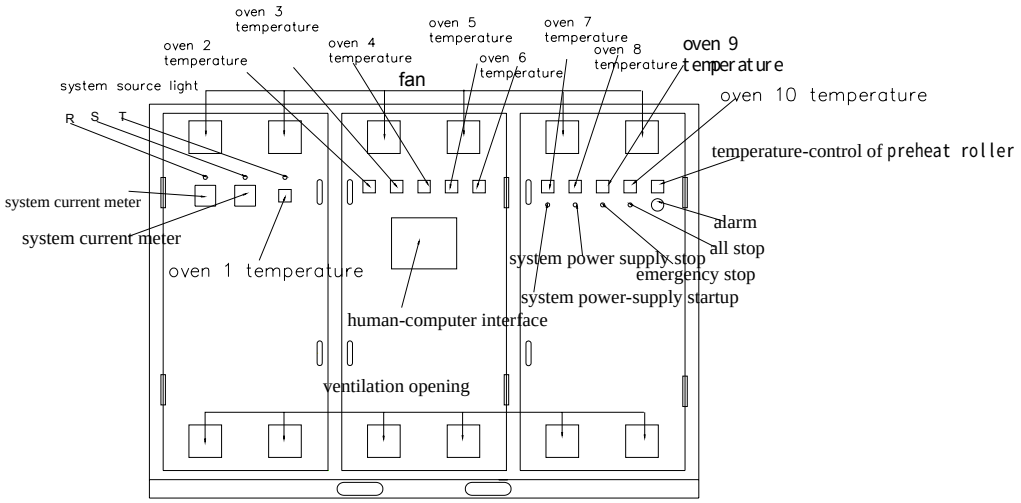
13.1.2.11 new material-reel diameter

It's a button to reset the initial diameter of reels on shafts A and B in unwinder, and to increase and decreases the diameter of new reel in unwinder.

13.1.2.12 unwinding EPC

It's used to ensure tidiness of film before entering into coater, and keep the film in a fixed position.

13.1.3 Operation panel of main electrical cabinet



13.1.3.1 Oven 1~10 temperature control

These meters are used to show and control the oven temperature(in ℃).

13.1.3.2 temperature control 1~10 off/on

These rotational switches are used for temperature control. When turn on, the temperature is controlled by temperature control, and turn off means stop heating

13.1.3.3 power indicator

It's the power indicating light used to show whether power is switch on.

13.1.3.4 power controller

It's a button used to control the power supply of the whole unit.

13.1.3.5 emergency stop

A button which can make all transmission stop instantly.

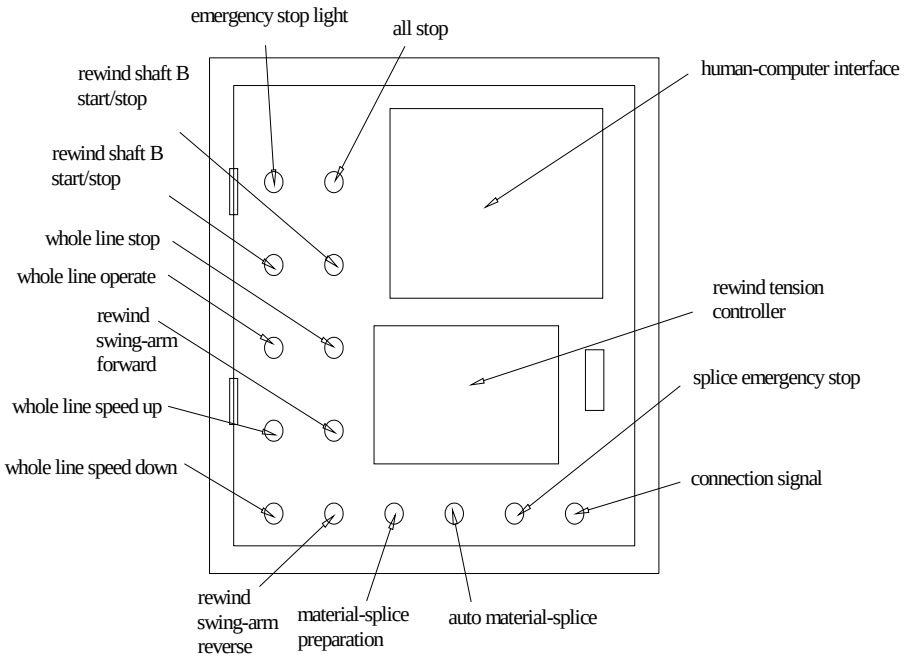
13.1.3.6 alarm

It's used to give alarm in case of faults.

13.1.3.7 human-computer interface

It's used to start and stop the circulation fan and exhaust fan, show the length of rewinding shaft A/B and the linear speed and faults of the equipment.

13.1.4 Operation panel for rewinder



13.1.4.1 connection signal

This dynamic controlled button is used to control electric bell which transmit various operation information.

13.1.4.2 whole-line run, whole-line stop

They are the buttons used to start and stop the whole coating line. After automatic start up, press “stop” button to make the whole unit smoothly slow down to stop. At this time, tense the film to setting tension without stopping the unwinding and rewinding machines.

emergency stop

A button which can make all transmission stop instantly.

13.1.4.3 speed up, speed down

They are dynamic controlled buttons to raise and lower the speed of the whole coating line. And this button can help adjust the speed of synchronous motor.

13.1.4.4 shaft A on/off, shaft B on/off

They are buttons to start and stop the inverter A and B. When replace reels automatically, new shaft will start and the old shaft will stop by themselves.

13.1.4.5 arm A, arm B

When in automatic position, rewinding frame will be scrolled into a horizontal position, and arm B works automatically.

13.1.4.6 material-splice preparation

Press “roll changing” button when changing material-reels, rotation arm overturned in place automatically and cease at last. Meanwhile, new shaft automatically open and is pressed by arm to prepare for splicing film.

13.1.4.7 automatic splice

When the film-splice preparation is completed, press “roll changing” button. At this time, 0.2 seconds later after rubber pressing roller press down the cutters cut. Then, the arm uplift and the old shaft stop working, thus the film splice action completes.

13.1.4.8 tension controller

It’s used to show material’s tension value(in *kgf*) in rewinder, set and adjust the tension for rewinding. The clockwise direction is for increasing, counterclockwise direction is for reducing.

13.1.4.9 human-computer interface

It’s used to start and stop the circulation fan and exhaust fan, show the length of rewinding shaft A/B and the linear speed and faults of the equipment.

13.2 wiring requirement

13.2.1 Power supply: 3-phase/380V, three phase four wire system, wire diameter≥ 90mm^2.

13.2.2 Ground connection: ground resistance≤ 1Ω, and shouldn’t be in the same grounding system with lightning shielding system.

13.3 Precautions

13.3.1 Parameters of inverter should not be adjusted at will after set down, otherwise it may affect the quality of products directly and even cause accidents.

13.3.2 Keep the inside and outside of electrical cabinet clean and tidy.

13.3.3 Check the working states of electrical components periodically. Replace and maintain in case of faults and problems.

13.4 Electrical control of the whole coating line

The unwinding and rewinding, coating die adopts vector converter closed-loop tension mode to control tension. The characteristic is tension controlled stability, high precision, have many differences with the common(magnetic powder, torque motor, DC motor drive)open-loop, and closed-loop control. Precision depends on the tension sensor’s feedback voltage and PID parameters settings of frequency converter, and initial diameter setting, roll diameter setting deviation is not too large, otherwise PID unable to adjust, and the machine is not stable.

“initial diameter” settled before startup automatically, when stop in halfway, reset if roll diameter changes, unwinding diameter settled according to material in unwinding shaft (new shaft).Rewinding shaft according to the paper tube diameter setting, all settings on the converter parameters shortcut menu, unwinding and rewinding converter parameters are all settled at factory, needn’t change, please consult factory if modify, rewinding converter manufacturers password for “18181”

The operation sequence as follows:

Turn on the power, check air pressure; unwinding and rewinding arm should lift

to upper position.
Before startup, with tape to measure diameter of materials, set “initial diameter” of “unwinding and rewinding” Set according to mother roll diameter on the unwinding shaft. If rewinding shaft is empty paper tube, “initial diameter” set 100mm.If criteria for new film, can reset directly (note: the speed below 20m/min, diameter stop calculation).
Open the fan and exhaust, only in the exhaust condition, the machine can start automatically.
After “initial diameter” settled, then set the tension. tension setting of the machine is to adjust tensioning potentiometer.100% corresponding to maximum tension 50kgf,set the tension then start the rewinding and unwinding motor, then rewinding and unwinding motor will slowly tightening substrates to make tension in setting value, only the rewinding and unwinding tension reach to setting tension can startup, in this way, system can operate stably. Stop when speed raise to certain height, the machine operate with steady speed and tension. In operation can change the tension and the taper(only rewinding has taper, set in converter parameters inside the shortcut menu),rewinding quality relate to tension and setting taper.
When film remaining little, then to exchange the new one, rewinding film-splice firstly, measure the new film diameter when put on new film, set diameter to “initial diameter”, if material is different from the former one should reset. New film should affix tape to stick in the old film firmly. Turn to automatic, “turnover selection” button also in automatic, press “film-splice preparation” button, then rewinding overturn automatically. When overturn in place, arm press down automatically, stop till press to the position of the magnetic switch, while new film automatic start, when old film running almost, press the “film- splice start” button, the film that rubber roller pressed join together with the new film, when new film run to more than a circle, then cutters cut down, old film stops, arm uplift automatically, new shaft automatically switch to the PID control, completed the action of film- splice.
After finishing unwinding film-splice then to proceed with rewinding film-splice, the action sequence of rewinding is as same as unwinding, empty pipe tube for 3 inches set its diameter for “100mm”, don’t set error (set too fast to catch up with its speed, too slow its tension fluctuating is big),rewinding and unwinding film splice’s difference is when press “start film-splice” button, pressing roll press down and cutters operate immediately. needn’t like rewinding as cutting after rolling a circle, the action of rewinding and unwinding manual film-splice is the same. when in manual film-splice, choose manual station, press“ film-splice preparation” button, cutting arm press down, of course, new shaft also starting manually, then press “film-press start” button, rubber roller press down, rubber roller magnetic switch signals, cutters cut down, cutters magnetic switch signals, cutters uplift, then stop old film immediately.
After completing roll exchange, take down the finished material, can overturn to the right position, choose to “manual overturn” when turnover, and then

scrolled inching.
In the process of operation, if something happened, can press “stop” button, and the speed of machine will drop to below zero, the rewinding and unwinding will not stop, can turn off the rewinding and unwinding shafts manually, also can press the “emergency stop” button, the rewinding and unwinding motor stopped.

Precautions in operation:
The setting of “initial diameter” in rewinding and unwinding is very important, machine can run normally after setting right, when startup normally, the motor run slowly or tension soared; thus, check whether “initial diameter” set correctly. Otherwise you will shut off and reset, then start again normally, can monitor diameter values in the parameters unit dynamically
Rewinding deviation, check the settled rewinding tension firstly, some material will deviation when tension setting too small. Then see the taper setting. f taper setting too small, when film scrolled big it will run deviation. Check the parallel horizontal of rewinding transition roller. Rewinding substrates’ loose and tighten difference in both sides can lead to deviation.
Turnover control for rewinding and unwinding can divide into automatic and manual. when something happened in automatic scroll, there are several methods: press “emergency stop” button, press “scroll reverse” button, turn “scroll” button to manual, all of these can stop rolling.
In the process of film-splice, when something happened, must stop. Turn the button to manual, if arm has been pressed down in the automatic film-splice. At this time, roller will be raised up automatically to stop film-splice. Press “film-splice preparation ”button again if restart film- splice, scroll for a circle again, if do not want to scroll, the action must be operated in manual mode, after finishing film-splice manually, immediately stop old shaft manually, let new shaft shift to PID control mode, because in the manual film-splice mode, old shaft will not stop automatically.
When film-splice in unwinding, because of different material diameter, need adjust the position of magnetic switch on the unwinding arm, under the condition of automatic film-splice, sometimes the distance of material and swinging arm rubber roller too far or too close directly affect the success of the film-splice, thus, can choose scroll in manual mode, control the scroll position to adjust the distance of rubber roller, then adjust the position of magnetic switch, press “film start” button to finish film-splice action.
After converter be protected, motor don't run, check the cause. Cut off converter power till its lights put out, then switch on the power again, the tension meter will alarm when the tension suddenly become larger, click zero key is ok.
In case encounter power off suddenly such abnormalities, turn off total power in one time, if rewinding and unwinding abnormal or alarm when start up, please reset PLC.(choose switch in PLC to STOP then turn to RUN).

Common faults

Types of malfunction	Reasons	Solution
Start up normally Unwinding and Rewinding system controlled by motor (PID unable adjust)	“initial roll diameter ”set incorrect. Work with the linear speed below 20m/min for a long time. Ironing roller does not press well.	Re-set. Operation speed above 50m/min Inspect the roller and press it well.
	Frequency converter alarm Motor damage Coder error	Check whether motor, Frequency converter, coder circuit have damage, joint is loose, Frequency converter alarm
	Tension sensor Tension meter	Check connecting line from tension sensor to the tension meter, tension meter connect with frequency converte whether tension meter alarm, reset it if alarm. Whether tension settled reasonable.
Cutters not cut in automatic unwinding film splice	Magnetic switch for rubber roller has no signal.	Check magnetic switch, when rubber roller press down， magnetic switch should be light, adjust position
	no signal nearby switch	Check the position of proximity switch, encounter bolts should be light
in unwinding and rewinding film splice, press the “start” button, rubber roller no action	Magnetic switch for arm has no signal.	Check arm magnetic switch position, when arm press down, magnetic switch should be light
The whole unit can not automatically start up	Air exhaust stop button emergency stop button	All scram button should pull out, stop button is in series. Normally, relay control the pause is action, check whether air exhaust normal
	Air exhaust	After exhaust open for 20 seconds then start the overall unit, check whether the exhaust started, check whether contactor action
Unwinding and rewinding roll over all the time	limit switch	Check whether limit switch be pressed when turning, whether limit switch connection loose and drop.

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