FM-GGS118P5
Oral Liquid Filling Machine
User's Manual

The People's Republic of China
HENAN FAIR MACHINERY CO.,LTD

Chapter I Safety Regulations

1.0 Preface

This chapter describes the provision of safety regulations and matters in the installation, operation and maintenance of filling machines to prepare in advance and to prevent unnecessary job damage and damage to the filling machine.

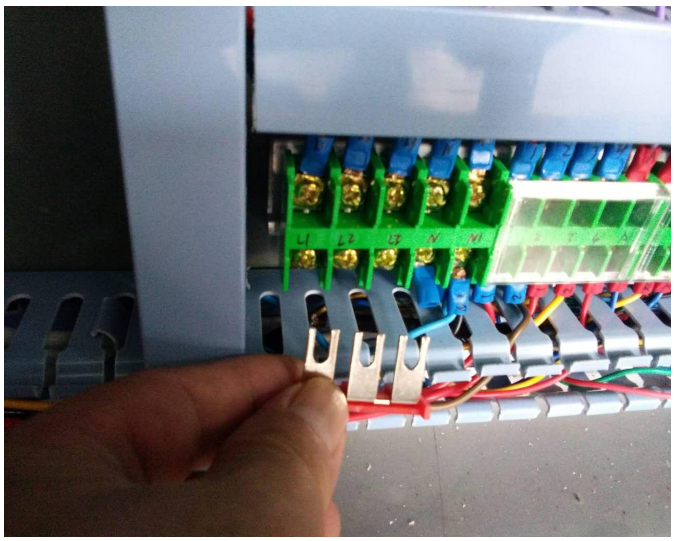
1.1 Safety attentions during installation

When installing the filling machine, a correct and effective grounding wire must be connected. Without such a grounding wire, any protective element on the filling machine will still form a voltage conductor, which will cause the risk of electric shock.

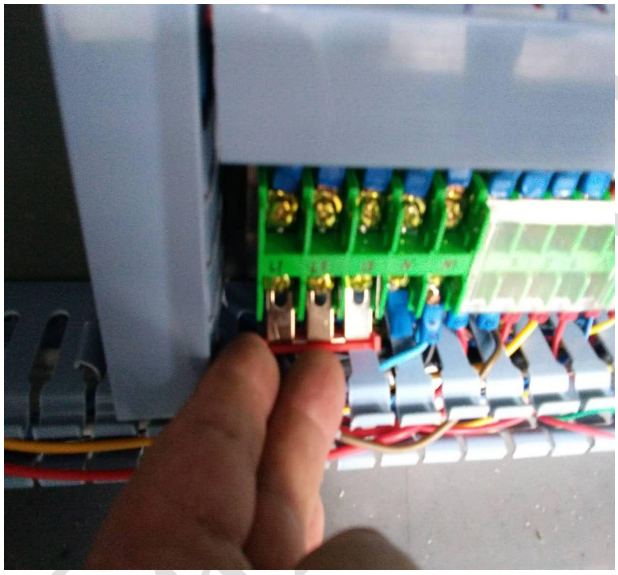
Check whether the power cord and the insulation protection according to the load required by the filling machine and its peripheral equipment are in compliance with the regulations.

Ensure that the external voltage on the machine is in line with the filling machine itself. And make sure that the power cord is connected to the position of the external breaker.

Make sure the filling machine operates at the specified voltage. If the voltage used is different from that specified, it may cause the burnout of the filling machine.



In connection with the 380V voltage power supply, please be sure to remove the copper sheet in series to avoid damage to the electrical components.



When connecting the 220V power supply, please install the copper sheet in series, filling machine running normally.。

1.2 Safety attentions during operation

Avoid the use of filling machines in volatile or explosive materials or gases.

Do not operate the filling machine at temperatures above 50℃.

In order to prevent molding dies can not be fast heat dissipation,

should always keep the replacement of circulating cooling water, should not make it too high temperature.

If the temperature of the molding dies is too high, it will cause the cooling of the bottle in the molding process to slow down, and the bottle shape is not pretty.

1.3 Safety attentions during using

When operating the filling machine, do not place other sundries on the machine body or use the machine as a pad.

When installing the film, it should be prevented from being clamped and ironed, and the double roll film should be pulled to the last process.

When using the machine, don't put your hands and other things into the running machine so as not to hurt them.

The sealing knife should be kept clean, and dust and liquid should be cleaned in time.

When changing the film, the machine should be shut down and closed. Until the new roll film blows out the whole bottle, the filling system will be opened.

1.4 Safety attentions during maintenance

The machine must be shut down before the maintenance work.

It is better for workers not to wear watches, bracelets, necklaces and other accessories when performing disassembly and maintenance work.

Do not disassemble, inspect and adjust any parts of the machine, unless the qualified personnel can maintain and repair the machine.

Before removing or moving the protective devices on the machine or replacing the electrical components, the main power must be cut off first.

Often wear long sleeved overalls, avoid the body parts are heated by high temperature roll and other high temperature parts of the surface burns.

Chapter II Familiarize with the filling machine

2.0 Preface

This chapter mainly describes and provides the general characteristics, construction and operation conditions of the filling machine, as well as a machine outside view drawing is provided to the user as a reference for the installation of the machine.

2.1 Specifications

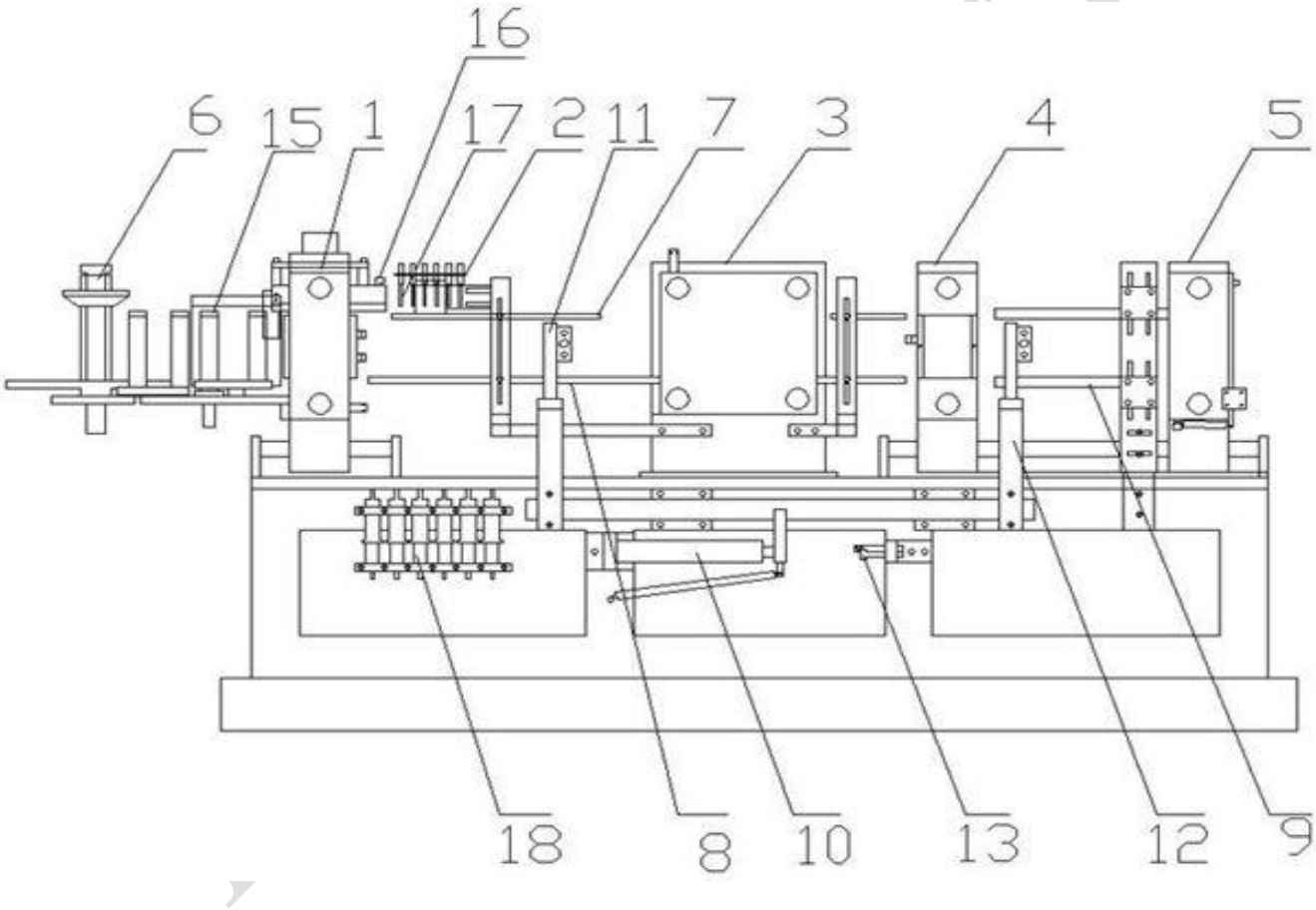
Maximum forming depth	12mm
Packing speed	100 bottles/min
Number of filling heads	5
Packing material	PVC/PE(0.2-0.4)×120mm
Filling volume	1-50ml/pcs
Total power supply	6.0kw
Voltage	220v three-phase /60Hz (380vthree-phase /50Hz)
Weight (kg)	850kg
Overall dimensions (L * W * H)	2300×850×1450(mm)

2.2 Machine characterization

The oral liquid filling machine comprises organic rack, feeding device and control system: The frame is sequentially provided with connecting plastic bottle molding device, filling device, tail sealing device, punching device and indentation device; the feeding device, the plastic bottle molding device, the filling device, the tail sealing device, the blanking device and the indentation device are all connected with the

control system. The utility model has the advantages of compact structure, automatic operation, low manufacturing cost and high production efficiency.

2.3 Device function description



2.3.1 The feeding device comprises the discharge roller 6, the upper track 7, the lower track 8, the rear track 9, the push cylinder 10, the front traction mechanism 11 and the rear traction mechanism 12; the front

traction mechanism 11 is arranged on the upper track and the lower track 8, and the rear traction mechanism 12 is arranged on the rear track 9, the front traction mechanism 11 and the rear traction mechanism 12 are driven by a push rod cylinder 10 through a connecting rod for traction. And the traction path terminal of the front traction mechanism 11 and the rear traction mechanism 12 is respectively provided with a front traction positioner and a rear traction positioner. The feeding device realizes two parallel and relative die materials, which are carried by the traction mechanism on the track.

2.3.2 The upper track 7 and the lower track 8 can be moved up and down to be arranged on the bracket, so that the distance between the upper rail 7 spacing, the lower track 8 spacing, and the upper track 7 and the lower track 8 can be adjusted to accommodate different heights and widths of oral liquid plastic bottle.

2.3.3 The pushing path of the push cylinder 10 is provided with a buffer device 13 and a stroke adjusting device, and the buffer device 13 is a spring.

2.3.4 The feeding device also comprises an elastic tension roller 14, the elastic tensioning roller 14 and the discharge roller 6 cooperate with each other for feeding, to avoid too much or too little tension in the transmission of membrane material. The elastic tension roller 14 is a

conveying roller arranged on the swing arm, and the free end of the swinging arm is pulled by the spring.

2.3.5 The plastic bottle molding device 1 comprises the heating roller 15, the forming mold and the forming blower 16. The forming die is connected with the heating roller 15, and a material partition plate is arranged between the molding die and the heating roller. The forming blower 16 is matched with the forming die, and the molding die is also provided with a cooling device for rapidly cooling the die. The two layer film material is softened by a heating roller. The softened film material passes through the material partition plate and enters the molding die; the blowing machine is blown between these two layers of film material, so that the two layer of membrane material is formed into an inverted plastic bottle in the molding mold, and the filling end is provided with a filling hole at the tail end of the plastic bottle. The two molds which are matched with each other are driven by a cam mechanism to realize the separating and close movements. The setting of the material partition plate prevents the film material from sticking together after the material is heated, softened and before molding, and affects the subsequent molding process.

2.3.6 The filling device 2 includes a connecting filling head 17 and a filling pump 18. The filling head is provided with the electromagnetic valve. The filling head has a plurality of side by side, corresponding to

the filling hole at the tail of the plastic bottle which is transferred, and is used to speed up the filling efficiency.

2.3.7 The tail sealing device 3 is driven by a cam mechanism, and is mutually matched with a heat sealing knife and a heat sealing shim plate.

2.3.8 The blanking device 4 is driven by a cam mechanism and is mutually matched with a punching cutter and a punching backing plate, and the waste material produced by the punching is blown to the waste material outlet by the corresponding waste material blowing port.

2.3.9 The impression device 5 is an impression cutter and an indentation pad which are matched with each other by the cam mechanism. The sealing device 3 cam mechanism, blanking device 4 cam mechanism, indentation device 5 cam mechanism and molding cam mechanism share two parallel rotating shaft 19, the rotating shaft 19 is driven by a connected motor and a speed reducer.

Chapter III Machine installation

3.1 Machine use environment and installation notes

3.1.1 Place the filling machine on the flat ground and fix the foot plate to ensure that the operation interface is easy to observe and operate. The front and rear doors of the machine have enough space to open so that they can be checked and maintained.

3.1.2 Avoid installing the machine at temperatures above 50℃.

3.1.3 Try to install the machine in a clean environment. Before the installation of the machine, should prepare the stable gas supply≥0.6MPa.

3.1.4 220V-380V/50Hz, power 6kw, please do not try to modify the voltage, so as not to damage the electronic components.

3.1.5 The equipment must be grounded, such as the power system of the plant without grounding devices, and must have a secure grounding system to connect the machine.

3.1.5 The circulating cooling water of the mold must be prepared.

Chapter IV Operation instructions

4.0 Preface

This chapter describes the electrical functions on the machine panel, the things that need to be prepared before the operation of the machine, and the procedures for operation.

4.1 Security precaution

Wear long sleeved overalls to avoid heating, rolling and other high temperature parts of the body surface burns. Pay attention to the following when using:

The gas path should avoid excessive water entry, regularly check the air filter valve inside the oil is sufficient.

Please don't run the machine before the heating temperature is up to the set temperature.

Pay attention to all safety matters.

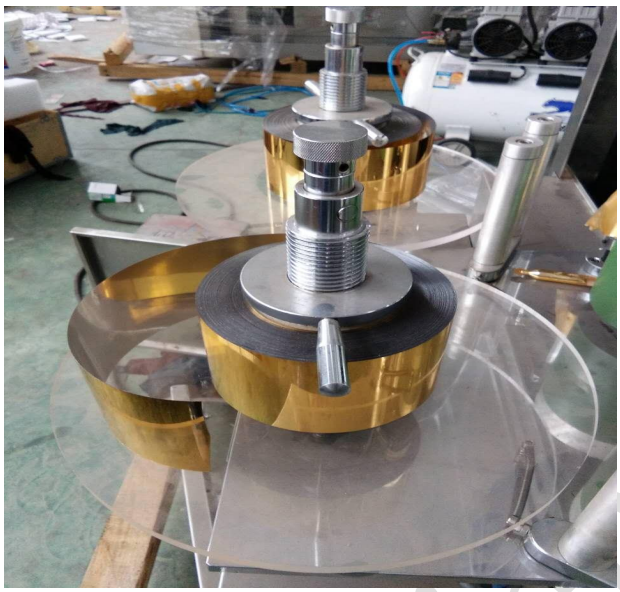
4.2 Introduction of operation panel and related part

The home page of the operation interface selects the appropriate language type according to requirements.

1.The temperature of the heating roller and the sealing temperature are shown in turn, and the suitable temperature is set according to the characteristics of the product and the thickness of the film.

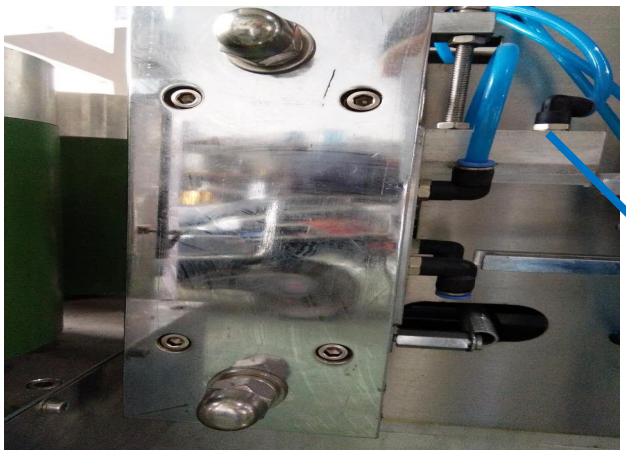
2.Set the speed of the machine according to your own needs.

3.The interface has a touch, boot, shutdown, filling, switching, cleaning and other buttons, click on your own needs, please do not click freely.



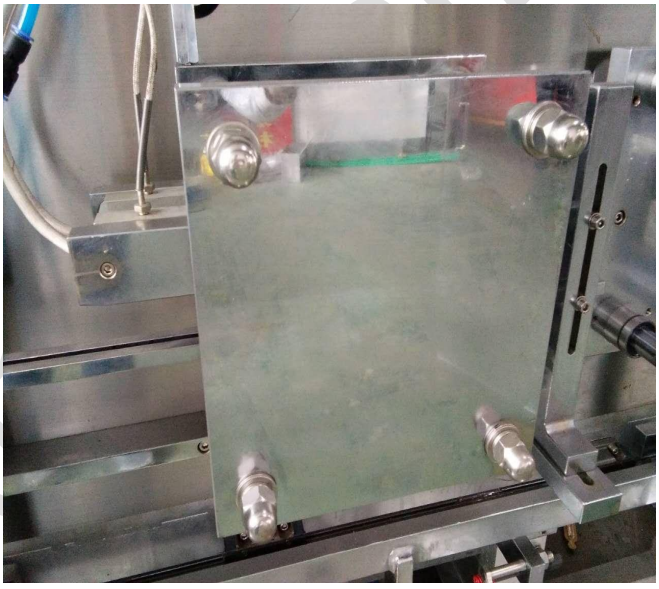
Place the roll film according to the installation requirements of the roll film discharge position

The film heating device needs strict installation to control the heating temperature.



Molding blowing port

The forming device shall ensure that the top of the coil is separated by a molding opening.

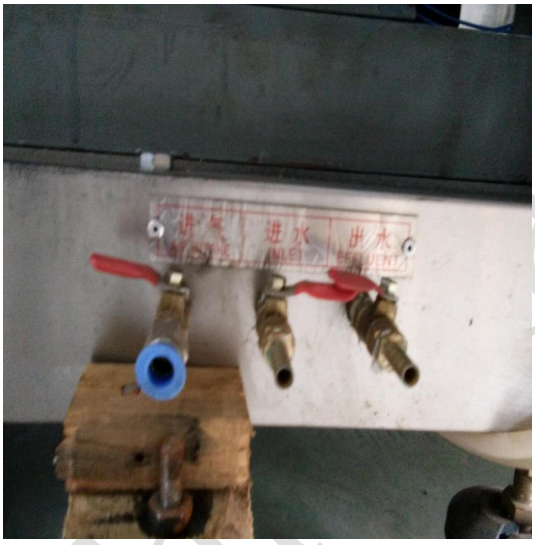


Sealing device, cleaning the dust and debris on the seal in time to ensure the perfect seal.

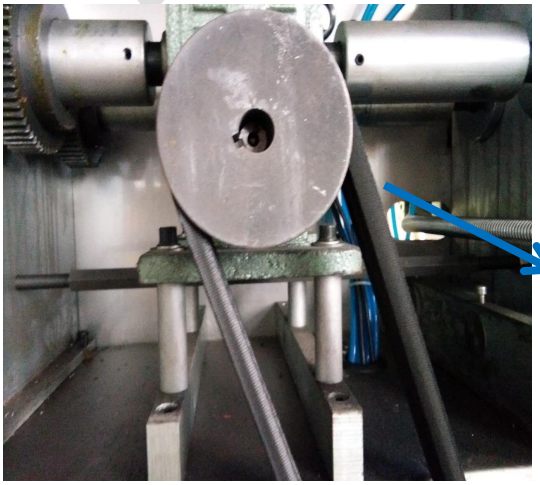
Punching device

Emergency stop switch

Regularly check the air filter valve inside the oil is sufficient.



Cooling recirculating water interface



Spacing adjusting screw rod for

forming die and sealing die

Spacing adjusting screw rod for sealing die and punching die

Spacing adjusting screw rod for indentation device

4.3 Steps to turn on the machine

1）Turn on the device power supply, compressed air, and start the device.

2）Turn on the cooler and check whether the cooling water circulation system is smooth and normal.

3）Check the machine before production. Make sure that the parts removed due to cleaning or maintenance are properly installed on the

machine. Confirm if the parts are loose. Find the tools or other accessories left on the machine or scattered around the machine. Make sure the emergency stop button is reset. Make sure all doors and shields are securely closed, check that all parts of the machine are properly joined, all fastening screws are fully tightened, clean in the mold surface, and do not have any debris.

4）Enter the user name, password into the operation interface.

5）Press the reset button and reset the sealing, forming, filling and cutting units through the touch screen operation interface.

6）After confirming that the cooling water has begun to circulate, turn on temperature control, preheat, seal, neck preheating, pre sealing, sealing and heating.

7）Replace the batch number. First, open the neck cooling panel in the neck unit management page, and then close the unit when you replace it.

8）According to the film the unit icon to install the package material, the preforming sealing temperature reaches the set temperature to start the machine, press the "ON" button and maintain more than 5 seconds, until the machine starts to work and stop sound alarm. Check whether the molding bottle is qualified.

9）When the bottle is qualified, run the equipment, check whether the neck and neck preheating sealing units are aligned. If not aligned, adjust the level of each unit and align the bottleneck.

10）The hollow strip passes through the buffer bin and enters the final cutting unit, align cutter through the fine-tuning button, open the cutter through the operating interface.

11）Check whether the filling nozzle is aligned with the bottle mouth, and pump the exhaust, the operation of equipment began filling.

12）Check the filling capacity of each filling pump and adjust to the

qualified range.

13）Check whether the bottle seal is firm, the batch number is clear, in accordance with the requirements, open the labeling machine, aligning labels.

14）During the running of the equipment, observe the coordination of the plate and the die, the degree of tightness and the location of the label affixed to the requirements, and adjust them at any time when they are not in conformity with the requirements.

15）The machine runs normally, and the machine does not work more than 100pcs/min.

16）The operator shall remove the plate in the pre forming unit and the neck unit when the machine needs to stop on the way.

17）When the machine is running, the operator should pay attention to the operation of all parts of the machine at any time. If abnormal happens, it should be stopped urgently.

18）Replacing the film roll, when the film roll is about to be used up, a photoelectric sensor on the film roll unfolding mechanism will trigger the blue light of the color warning lamp. This light tells the operator that new film rolls should be replaced, and new film rolls should be installed on the second mandrel beforehand. When the new film is mounted on the mandrel, do not completely lock it, that is, do not tighten the self-locking mandrel knob completely.

4.4 Steps to turn off the machine

1）When turn off the machine, will use automatic shutdown mode, the automatic shutdown button is located in the left bottom of the home

page. After pressing this bottom, appear YES or NO (press NO), due to safety reasons, the machine will not turn off immediately. It will automatically shut down only when the temperature of the heating component falls below 70 ℃. Finally, the cooling machine will be closed.

2）Turn off the compressed air and cut off the main power.

3）Close the compressed air switch.

Chapter V Preventive maintenance

5.0 Preface

This chapter describes the filling machine maintenance and simple repairs.

5.1 Maintenance

1）When the equipment is clean with water or alcohol, it is necessary to avoid touching or approaching the electrical parts of the equipment. Moreover, the water can not be put into the electrical parts so as to avoid electric shock or equipment accidents.

2）When the equipment is in maintenance, adjustment, mold replacement and other operations, counting tools and accessories, to prevent residual objects falling into the moving parts, resulting in equipment accidents.

3） In the operation of the equipment, attention should be paid to the safety of the equipment, such as: do not use sharp tools, abrasives and tail sealing coating.

4）After shutdown, cooling water must be closed after the template is lowered to room temperature.

5） Before starting the machine, the operator must understand the position and function of all the stops.

6）Machines can only be used by trained and professionally qualified personnel. Unauthorized personnel can cause serious personal injury and damage to the machine.

7) No bump touch screen with a hard object, so as not to damage the equipment.

5.2 Simple repairs

1）When repairing equipment, be sure to cut off the power supply and make sure it is repaired without error.

2）The equipment belongs to large equipment and is operated by many people. It is necessary to remind each other to prevent misoperation and safety and equipment accidents during overhaul.

3） Check the electrical switch of the equipment every week by maintenance electrician, check the dust of the distribution box, fasten the connection terminal and the frequency converter.

4）Every 112 hours of operation, check the fastening, sealing, forming, sealing, internal connections and sensors of each unit; Check the lubrication status of the moving parts inside the machine; Guide rod and other parts with relative movement add lubricating oil. Linear bearing and cam add lithium grease.

5） Every 224 hours running, blanking disassembling repairing and cleaning lubrication; check the lubrication conditions of the moving parts inside the machine, guide rod and other parts with relative

movement add lubricating oil. Linear bearing and cam add lithium grease. Coating the sealing dies.

DESIGN BY

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