

LKXP-360 全自动工业洗片机

操 作 手 册

济宁鲁科检测器材有限公司

1 清水连接:

入水管带3/4"外螺纹接头, 水压在2-10巴间。

2 排水连接:

塑料管内径为50毫米或稍大。需要一个通气的下水道。排水管倾斜角度至少不小于5度, 以避免沉积物。

注意各地关于废液排放的规定。

3 电源连接:

带有地线和保险丝的插座为220-240V 50Hz或60Hz 16A。建议在电源和机器之间安装一个控制开关及一个漏电保护器25A/30mA。

电的连接安装需由专业人员及按照有关规定进行。

1 Fresh water connection:

Stop cock with 3/4"outer-thread diameter(washing machine connection).Water pressure should be between 2-10bar.

2 Drainage connection:

Plastic hose-inner-diameter 50mm or larger. A ventilated syphon which serves as odour preventor should be included in the planning. The drainage hose should be installed with a fall of minimum 5%. To avoid blockage ensure that the drainage hose is kink free.

Local Water Authorities regulations should be complied with!

3 Electrical connections:

Fused socket with earth connection,220-240V,50 or 60Hz, 16A should be used. An intermediary socket and power connection with control and F-switch with 25A/30mA nominal error-current are recommended.

Electrical connections should be carried out accoding regulations by an electrician.

1 打开机器外包装。取下机器盖, 使在轴架一侧的传动锁销断开。先从烘干槽取出轴架。

2 应把机器放在一个工作台上, 必须把4个可调地脚螺丝(在随机提供的配件塑料袋内)拧上。带底架的冲片机不需这4个可调地脚。底架的四个腿可调高度。

注意: 机器不容许没有可调地脚放在工作台上安装。机器下面的通气空间不能堵上, 否则会使工作中机器的温度过高。

3 机器需在一个底架或工作平台上安装、调校水平。用水平仪测量水平位置, 可相应地调地脚。

1 Unpack the processor. Remove cover and transport securing brackets on the sides of the roller racks. Remove roller racks-start with the dryer rack.

2 In the event that the processor is to be installed on a work top or table, the adjustable feed(in accessory bag)should be screwed on. If the processor is to be mounted on the base table which is offered as an accessory, the adjustable feet are not required. The base table feet are individually adjustable in height.

Attention: Machine should not be installed on table-top without adjustable feet, as this would cause blockage of the ventilation openings under the machine and overheating

3 Install the processor on either the base table or working top (which ever applies)and level out horizontally. To do this place spirit level across the sides of processor and adjust the feet accordingly.

4 连接连接管。先加热管子，后推入所属的内接管。连接管不能弯折并要保持一个垂直角度。

注意: 颜色要正确

显影: 蓝色 定影: 黄色

水洗: 绿色

如果把机器放在一张桌子上注意桌子要稳

4 Connect the enclosed hoses to machine. This is easy to do when the hose ends are slightly heated and then pushed over the respective connection. The hose piping should be without kinks and with a constant fall.

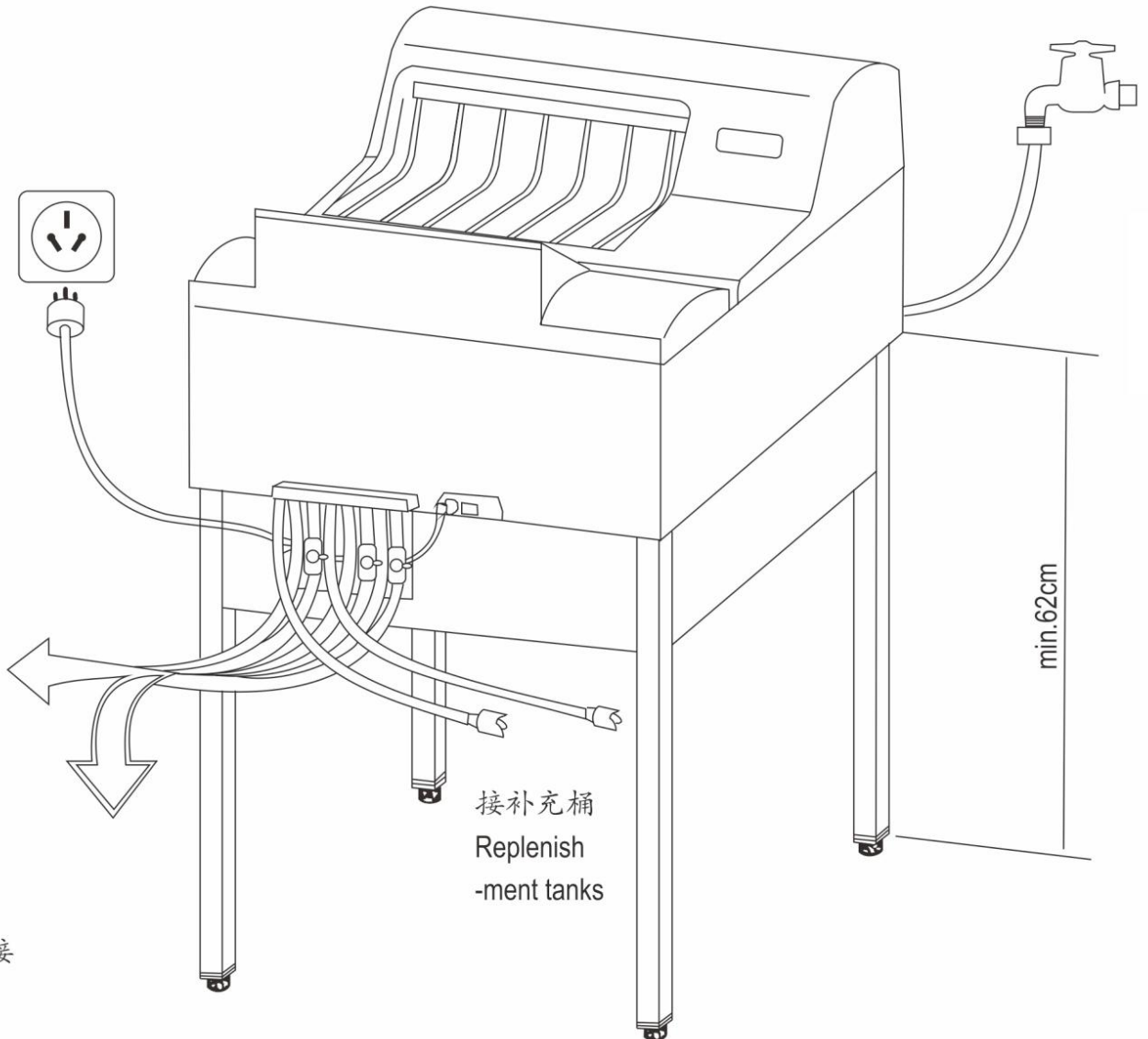
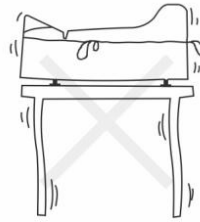
Pay attention to the correct colour connections:

Developer: blue Fixer: yellow Water: green.

In the event that the machine is installed on a table, ensure that the table is stable.

应在一张桌上安置机器，注意桌子要稳。

In the event that the machine is installed on a table, ensure that the table is stable.



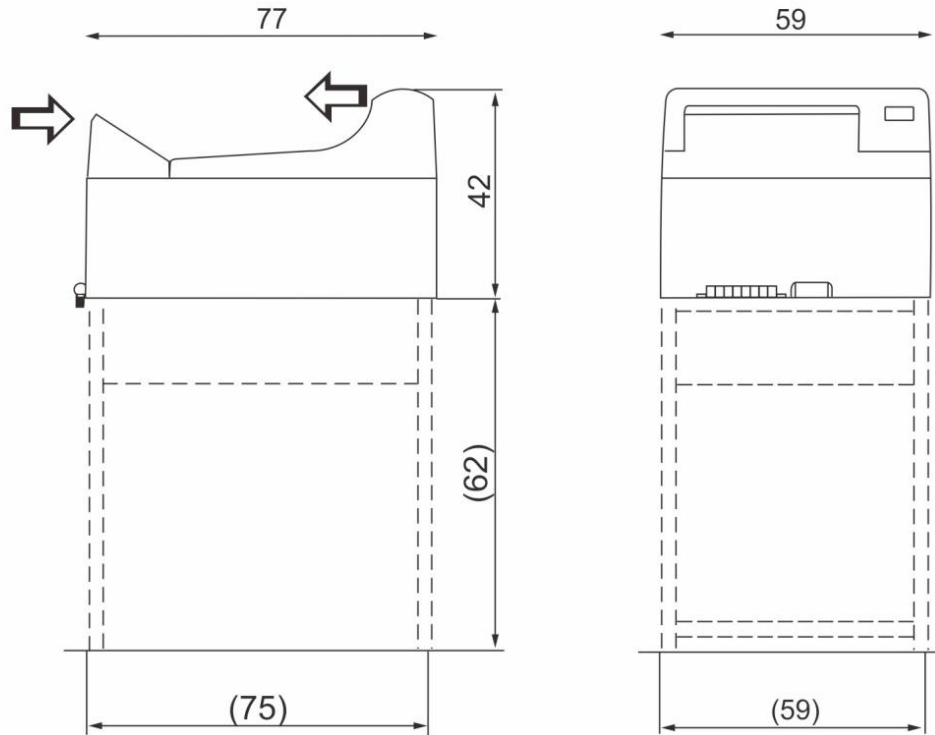
排液承接桶
Drainage collecting containers

接补充桶
Replenishment tanks

min. 62cm

底架可作为选购件提供

As an option a processor stand is available.



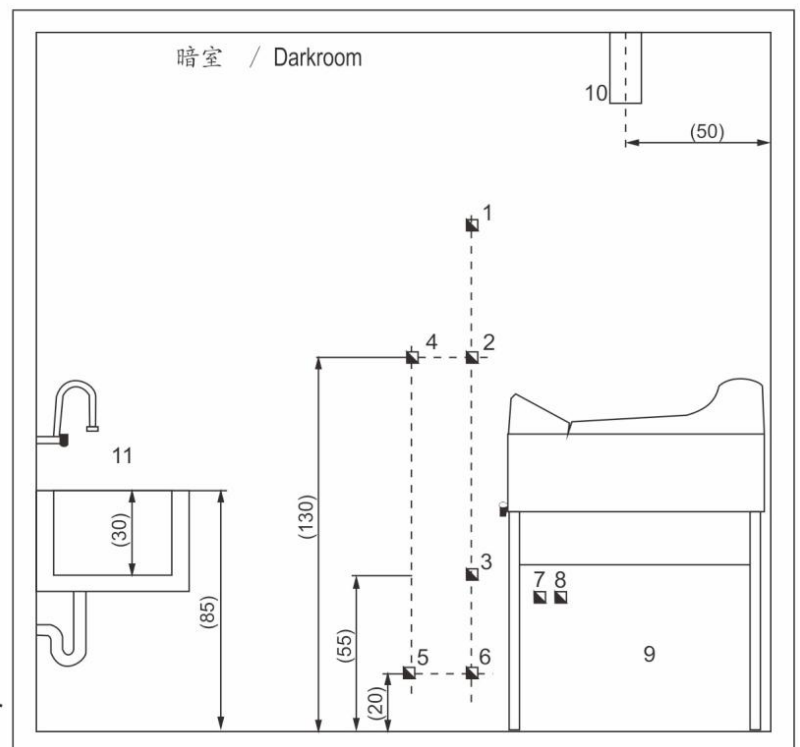
- 1 电源电压220-240V, 16A (3×1.5平方毫米铜线), 25A/30mA漏电保护器。
Power source 220-240V, 16A(3×1.5mm²Cu) 25A/30mA nominal error-current.
- 2 电源开关16A。
Control-switch 16A.
- 3 带地线的插座, 16A。
Fused socket(16A)with earth connection.
- 4 水龙头。
Stop cock for water supply.
- 5 3/4"外螺纹接头, 0.3-10巴水压, 5-30度水温。
Fresh water connection with 3/4"outerthread diameter, 0.3-10bar, 5-30°C.
- 6 PVC排水喉, 直径50mm, 下水道。
Drainage plastic hose, 50mm, Syphon.
- 7 显影排液喉, 盛接桶。
Drainage, collecting containers of developer.
- 8 定影排液喉, 盛接桶。
Drainage, collecting containers of developer.
- 9 补液桶安放的位置, 在机器下方或其他地方。
Storing space for replenishment tanks: Under machine or extemally.

10 暗室通风装置。

Ventilation of darkroom is necessary.

11 清水洗涤池及水管, 体积60×40×30 (长, 宽, 高)。

Sink with freshwater and flexible hose. Inner dimensions 60×40×30(L×W×H).

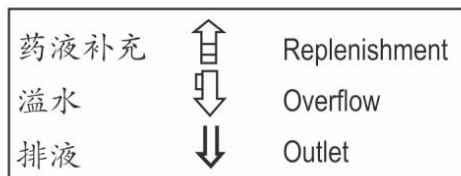
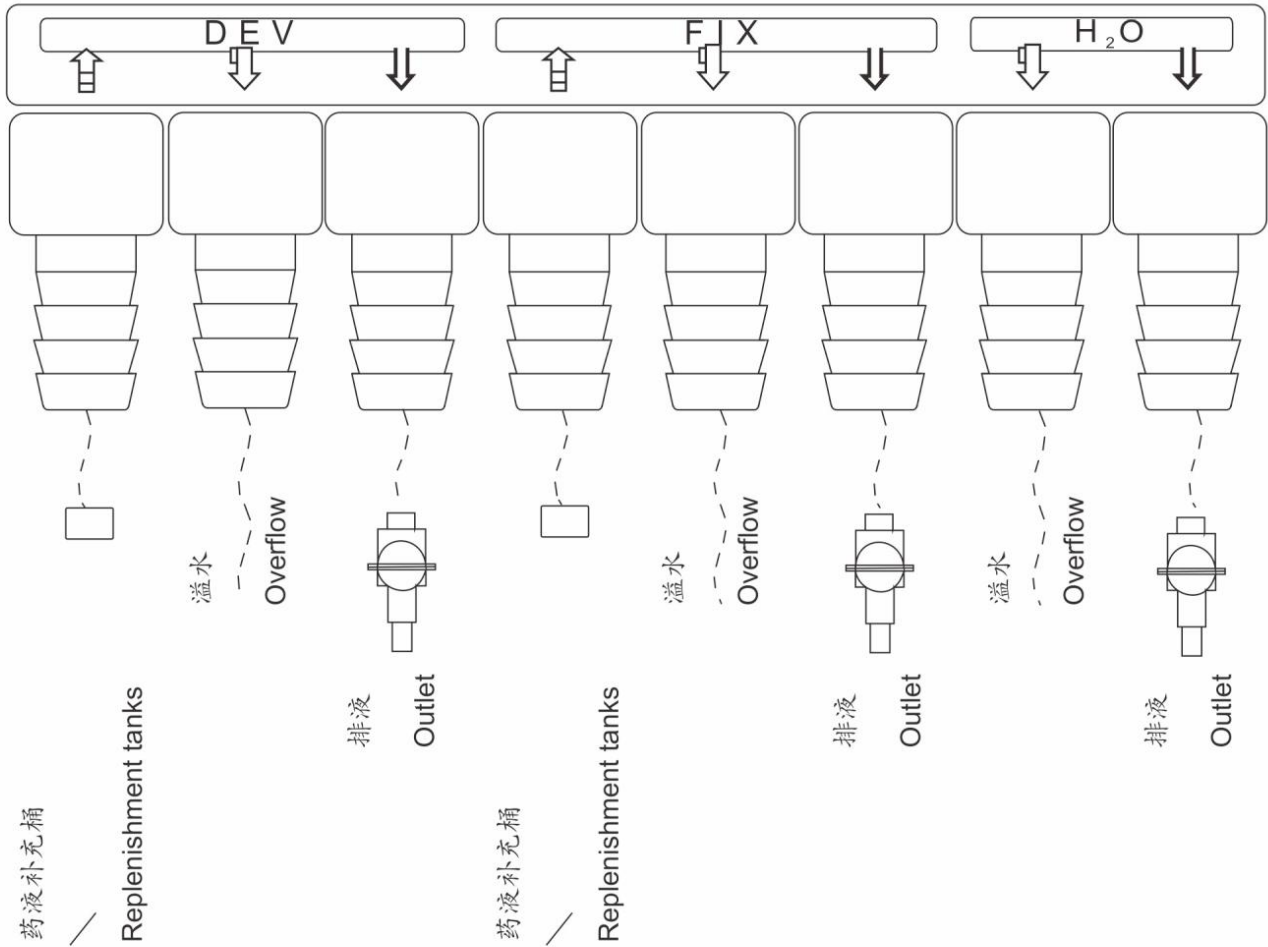


MaBe in cm / Dimensions in cm

显影 Developer
蓝色 blue

定影 Fixer
黄色 yellow

水洗 Water
绿色 green

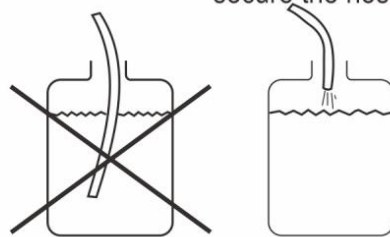


三个排水管和排水阀连接好，随时都可方便地使用。

The stop ccks on the three drainage hoses should be installed in such a position, that they are easy to reach at all times.

显影，定影排水管要接入事先备好的盛接桶中，清水排水管可直接接入下水道。可用所提供的管卡子固定连接管。

The overflow hoses for the developer and fixer should be guided into the respective collection containers. The overflow and drainage hoses of the water can be guided into the drainage syphon. To secure the hoses, the cable binders(accessory bag) can be used.



注意各地对废液处理的规定。

The local Water Board regulations regarding drainage should be complied with!

调试

重要：机器不许无液空转!

- 1) 关闭三个排液阀并把各药槽及药液补充桶注满水。打开清水进水阀。接通电源。开主开关。这时清水槽流入清水，循环泵开始工作。连接管路系统排气。
- 2) 补充泵排气：
用一张胶片压住入片开关按住此张胶片，补充泵开始工作，直到药槽内不再有气泡产生，再松开胶片。（或按手动补充键）
- 3) 循环泵排气：
如果循环泵中有空气，可以听到较大的噪音。关主开关。打开显影，定影排液阀几秒钟，再开主开关。重复这个步骤直到显影，定影槽中没有气泡产生，泵无噪音工作。要重复检查连接管的密封性。关主开关。排水。

注入化学药液

化学药品要根据厂家的说明混合，搅拌均匀，用各自的容器先注满定影槽，再注满显影槽。小心不要让不同的化学药液溅入其他液中。否则定影药液会破坏显影液。

键盘操作

- 1) 指示灯：
[DEV]：显影温度指示。在DISP模式：LED显示在线显影温度值；℃
在SET模式：LED显示设置显影温度值。℃（20~40℃）±1（推荐使用33℃）
[DRY]：烘干温度指示。在DSIP模式：LED显示在线烘干温度值；℃
在SET模式：LED显示设置烘干温度值。℃（20~70℃）±5（推荐使用55℃）

Test run

Important: Processor should not be run dry!

- a) Close the three drainage stop cocks and fill the tanks and replenishment containers with water. Open water inflow tap. Connect electrical socket and switch the machine on. Water now flows into water tank. The circulation pump activates, however the hosing of the machine must be ventilated.
- b) Ventilation of the replenisher pump:
Press the switch in the infeed tray and keep pressed. The replenisher pump is activated. Keep the switch pressed until no more air bubbles appear in the tanks.(or Press Replenisher Key)
- c) Ventilation of the circulation pump:
if air is in the circulation pump, a loud running noise can be heard. Switch the machine off again. Open the stop cocks of the developer and fixer for 5 seconds and switch machine on again. Repeat this procedure until no more air bubbles are visible in the developer and fixer baths and until the circulation pump runs quietly. Check all hose connections for leakage. Switch machine off and drain water out.

Fill processor with chemicals

The chemicals should be prepared according to manufacturers instructions. By using a suitable container, pour chemicals into the respective tanks. First the fixer and then the developer. Caution: when filling, be sure that chemicals do no splash from one bath into another. When fixer solution is mixed with developer solution, the developer chemical is destroyed.

Key Operation

1.LED

- [DEV]: DEVELOPING TEMPERATURE DISPLAY Under DISP mode: LED displays for the working developing temperature in °C. Under SET mode: LED displays for the set developing temperature in °C (20°C-40°C) ±1
- [DRY]: DRYING TEMPERATURE DISPLAY Under DISP mode: LED displays for the working drying temperature in °C. Under SET mode: LED displays for the set drying temperature in °C. (20°C-70°C) ±5

[TIME]: 显影时间指示。在DISP模式: LED 显示在线显影时间值; 秒在SET模式: LED显示设置显影时间值。(6~14分) ±5 (推荐使用8分)

[REPL]: 补液量指示。在DISP模式: LED 显示在线显影补液量; ml/m²在SET模式: LED显示设置显影补液量。ml/m² (50~500ml) ±10 (推荐使用100ml)

2) 操作键功能

注: ①第一次开机器将自动进行内部检测几秒钟, 并显示[-]后进入自动运行一周, 包括自动补充一次。②每隔15分钟机器自动运行几秒钟进行防氧化处理。③机器在运行过程中, 将不能使用SET设置功能。

[DISP/SET]: 在DISP模式: 用于选择所需参数的在线值显示, 按压一次自动转换至下一个所需参数, 同时指示灯对应移至下个参数, 如[DEV]-[DRY]-[TIME]-[REPL]在SET模式: (只能在机器处于准备状态下, 才能进行以下操作) 当按住[DISP/SET]键达2秒以上, 则DISP模式自动转换为SET模式, 并且在位参数值开始闪烁, 用[REPL/>]或[BRIGHT/<]进行修改, 直至所需参数, 确认后再按压一次[DISP/SET]键, 经2秒后自动返回到DISP模式。

[MAUNA]: 在DISP模式: 按压一次可作手动走片一个循环, 当机器发生报警鸣叫时, 按压此键即可关闭当前报警 (报警优先) 报警指示: 当显影温度超过设定值3℃, 烘干温度超过设定值10℃, 前一张片未走完又送入下一张片时。在SET模式: (在任何一个参数进入SET状态, 即数值闪烁时) 按压此键可切换报警状态, (打开/关闭) 即进关闭状态, 再按下一次即恢复报警状态。

[REPL/>]: DISP模式, 用于手动补液, 按压一次到手动补完在线设定量一次如70毫升。在SET模式: 对设置参数进行增量修改。

[BRIGHT/<]: 在DISP模式: 调节LED显示器亮度: 全亮—半亮—全暗。在SET模式: 对设置参数进行减量修改。

3) 查看冲印累计数

按住[BRIGHT/<]键2秒后, 将显示累计冲片次数同时按下[REPL/>]键, 将累计冲片数清零。

[TIME] DEVELOPING TIME DISPLAY Under DISP mode: LED displays for the working developing time in seconds. Under SET mode: LED displays for the set developing time in seconds. (6-14min) ±5

[REPL] DEVELOPER REPLENISHING TIME DISPLAY Under DISP mode: LED displays for the working developer replenishment amount in ml/m² Under SET mode: LED displays for the set developer replenishment amount in ml/m² (50-500ml/m²) ±10

2. keyboard functions:

Caution: 1) The processor will automatically self-check at first use. After it displays [-], it will run the whole process including replenishment. 2) During operation, the processor will run automatic anti-oxidation program for several seconds every 15 minutes. 3) During operation, the SET function is not available.

[DISP/SET]: Under DISP mode is used to set the working parameters. Press once, then it will switch to the next parameter, and the LED will display it, eg. [DEV]-[DRY]-[TIME]-[REPL]; Under SET mode: (only available when the processor is under preparing mode.) When press the [DISP/SET] key over 2 seconds, the DISP mode will switch to SET mode automatically, meanwhile the working parameter will blink. You can modify the rates by pressing down [REPL/>] or [BRIGHT/<]. After you have finished modification, press the [DISP/SET] key again for over 2 seconds. The processor will be back to the DISP mode.

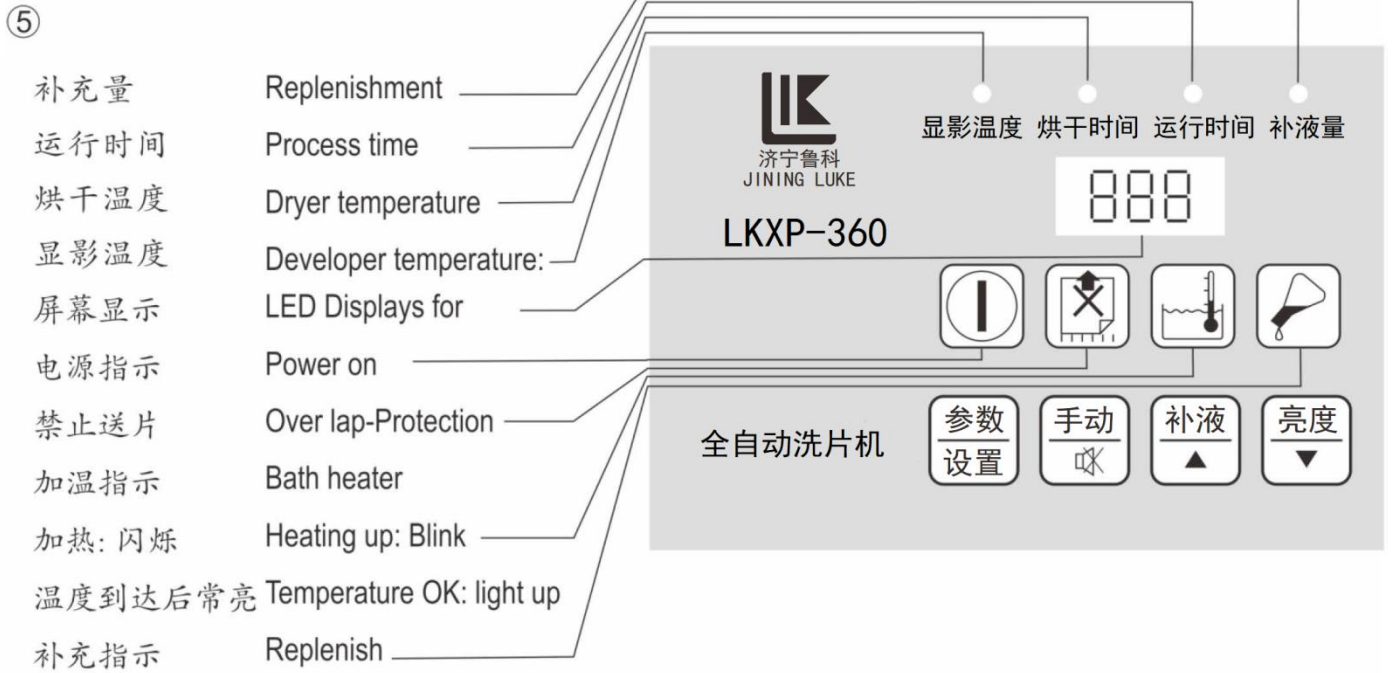
[MAUNA]: Under DISP mode: press once, the processor can finish manual process once. This key can also stop the alarm. (Alarm is the priority.) Alarm mode: The processing temperature is 3℃ higher than the set value. The drying temperature is over 10℃. Next film is processed before the former one finished. Under set mode: (each parameter under SET mode will blink.) Pressing the key to switch the alarm mode (ON/OFF) or to stop the alarm.

[REPL/>] Under DISP mode, When manually replenish reagent, press once to fill working amount, eg. 70ml. Under SET mode, increases the set rate.

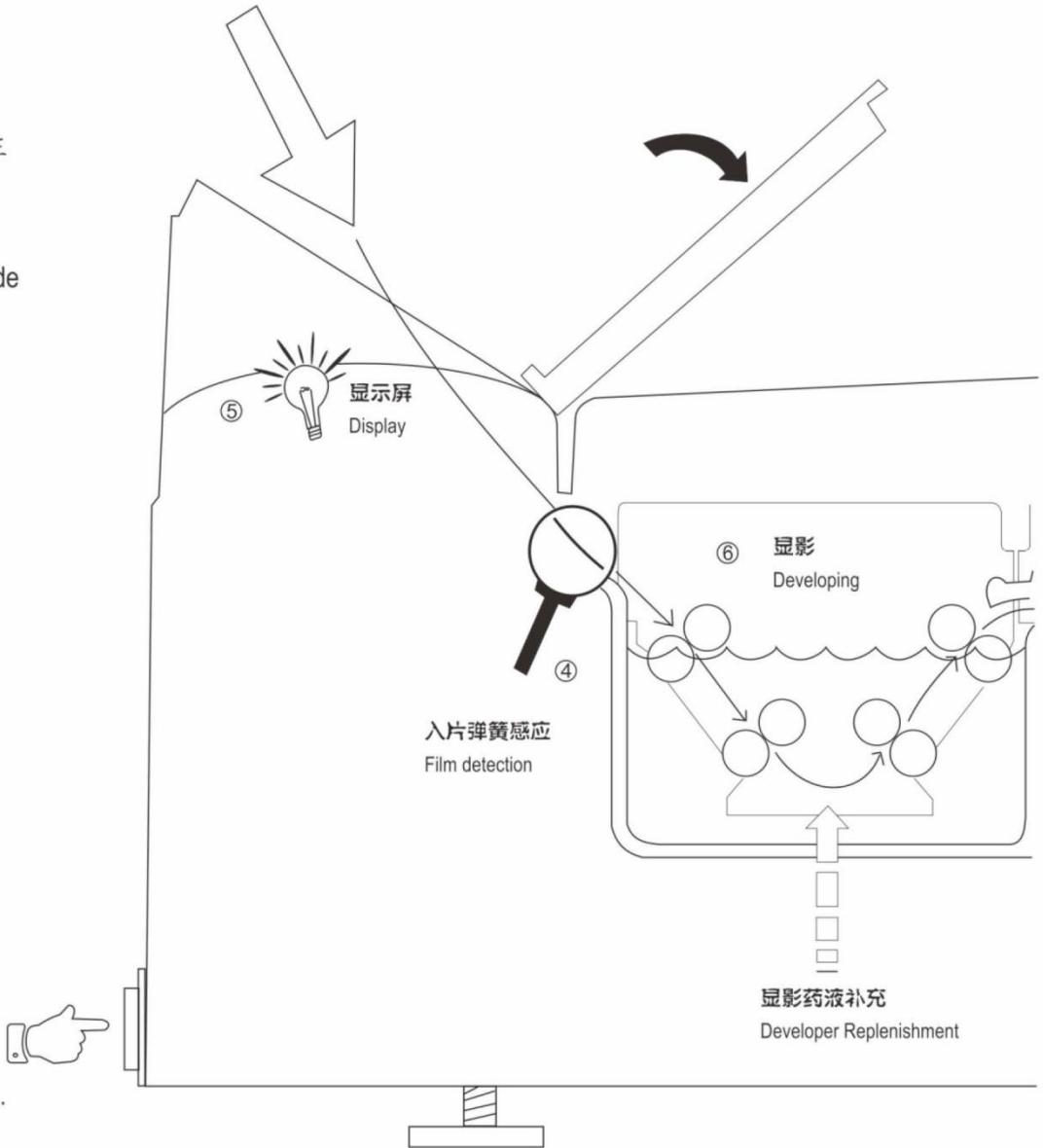
[BRIGHT/<] Under DISP mode: adjusts the bright of LED. Full light-half light-dark. Under SET mode: decreases the set rate.

3. Check the total amount

You can check the total developing amount by pressing down [BRIGHT/>] over 2 seconds. And remove the rate by pressing down [REPL/>] at the same time.



③
 打开入片台遮盖, 靠左
 边放入胶片。
 Open light protection
 cover, place film on Left side
 and feed in.



②
 打开主开关。
 Turn ON the power switch.

- ① 在开主开关前先关上排水阀，打开入水阀。工作结束后，必须关上入水阀，打开排水阀，排出水洗槽内的废水。
- ② 开主开关，注入清水，风扇工作。显影、定影槽加温，达到温度，显示屏上温度显示常亮。
- ③ 打开入片遮光盖，靠左边放胶片并进入。
- ④ 入片开关启动传送装置和药液补充系统。
- ⑤ 请勿入片指示灯亮。
- ⑥ 胶片显影，
- ⑦ 定影、⑧ 水洗、⑨ 烘干、⑩ 出片。

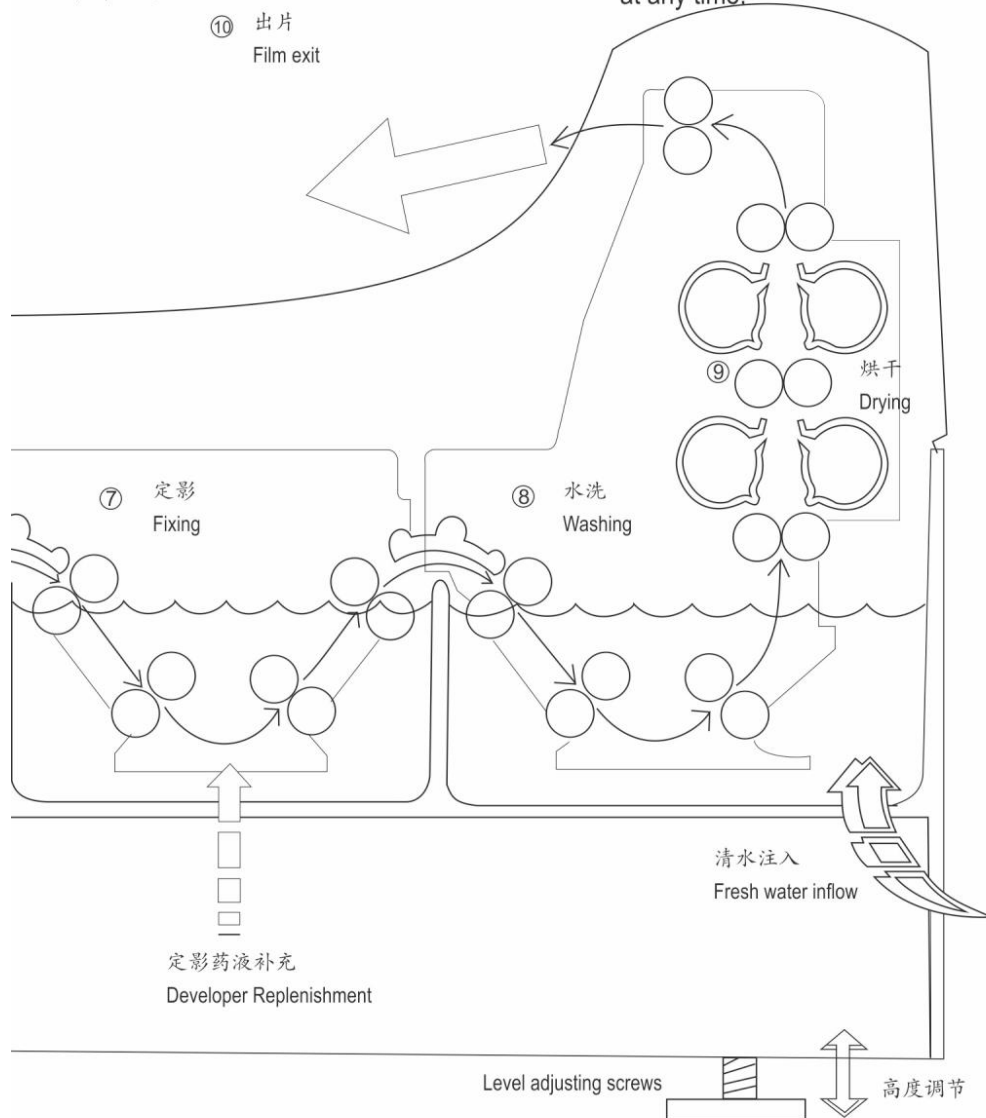
备用状态启动:

不冲片，机器处于备用状态下，化学药液保持恒温，胶片传送装置和清水入水有规律的短暂运转，以防止化学药液在传送辊上结晶，随时都可放入胶片冲洗。

Before switching the machine on, close the water drainage stop cock and open the freshwater tap. When working has finished for the day, it is essential that the freshwater tap is turned off again and by opening the water-drainage stop cock the water drained out of the machine. Switch the machine on. The water tank fills and the ventilator fan feeds fresh air in. The developer and fixer baths heat up. When the required temperature is reached, the LED Bathheater blinks. Open light protection cover. Place film on left side of feed tray and feed in. The film switch starts the transport and the replenishment. The Overlapping safety device LED lights up. The film is developed and fixed In the water bath the film is rinsed and dried The processed film leaves the machine

Stand-by mode:

When no film is being processed, the machine switches on to Stand-by. The chemicals remain at a constant temperature. The film transport and water inflow activate at intervals to avoid crystallisation of the chemicals on the transport rollers. Entry of the next film is possible at any time.



①

在开机前，关闭排水阀，打开水龙头，调节进水流量。
Before switching on, close water-drainage stop cock and open water tap! Turn up the Inpour water.

工作结束后，必须关闭清水入水龙，排清水洗缸内的废水。

When work has finished for the day, remember to turn water tap off again and drain water out of the machine.

⑪ 关机后须打开大盖

When close the power switch, you must to turn on the top cover.

注意：送片后改变速度可能会导致最后一张图片不能完全从烘干中走出。

Attention: After lead in film if you change the drive. The last film will not exit from the drying.

工作前...

- 用软布擦去入片台上的灰尘。
- 放入2-3张废胶片以便清洁沉积在辊轴上的脏物和灰尘。
- 检查药液补充桶的储存量，必要时加入药液。
- 如没有胶片冲洗时，打开入片遮光盖，防止冷凝水的生成。

工作后...

- 放空机器内的水，否则水中会长藻类。

Before use...

- Remove dirt and dust from film-feeding soft cloth.
- Run 2-3 cleaner films through processor to remove all accumulated dirt and dust from the rollers.
- Check the liquid level in the replenishment containers and if necessary refill.
- Leave light protection cover open when no film is in the processor. This avoids condensation on infeed.

After use...

- When working has been completed at the end of the day, drain water out of the machine. This avoids the growth of algae in the water.

一周后

After A Week

在冲洗胶片时产生的沉积物在机器内沉淀，这些沉积物在胶片显影时产生负作用，因此应经常周期性地清除这些沉积物。

- 1) 关主开关。打开机盖。
- 2) 打开所有轴架的锁销：在近传送齿轮的一侧。
- 3) 取出轴架。首先取烘干轴架。另外，稍微倾斜可较容易取放轴架。
- 4) 用温水彻底冲洗轴架、晾干。最好使用一块软海绵（不要太粗糙，否则会划伤辊轴）擦洗轴架上的脏物。
- 5) 放回轴架。注意位置正确，不要忘记锁上锁销。
- 6) 用湿布擦净机器外壳，不要使用强刺激的洗涤剂。

The developer chemicals cause residue build-up in the machine. This residue has a negative effect on the developing process of the film material. For this reason the processor should be regularly freed of this residue.

- a) Switch machine off and remove cover.
- b) Loosen the securing latches the drive shafts of each roller rack at the right side.
- c) Remove the roller-racks. First of all remove the large dryer-rack(natural-colour). The racks are easier to remove and insert when these are slightly tilted.
- d) Rinse all racks thoroughly under warm running water and then leave to drain off. It is advisable to use a soft sponge(do not use scouringpad, as this would scratch the rollers)and remove the pollution from the rollers.
- e) Replace the racks, Ensure that the racks are firmly installed and do not forget to close the securing latches on the drive shafts.
- f) Clean processor outer casing with damp cloth. Do not use aggressive cleaners or solvents.

根据胶片冲洗量每3个月进行一次彻底清洗是必要的。对显影，水洗槽可用专门的清洁剂，定影槽则只能用清水冲洗。要特别注意清洁剂的使用说明。

步骤：

- 1) 关主开关。打开排液阀放空药槽。
- 2) 打开机盖。当药槽空了后，关上排液阀，在定影槽中注入清水，把显影，水槽清洁剂分别放入各自的药槽。
- 3) 从药液补充液桶中拔出吸管，放入一个已注满清水的桶中。注意：不要放入清洁剂。
- 4) 盖上机盖，开主开关。
- 5) 将一张胶片放在入片台上，压住入片开关，但按住它不要让它进去，使机器运转。
- 6) 机器在这种情况下运行10-20分钟，这样可以清洗辊轴。
- 7) 重要：在清洗完药槽后要彻底冲洗。注满清水两次，让机器每次运行10分钟，然后取出轴架，在一个水桶中用活水冲洗，放空药槽，关上排液阀。
- 8) 注入化学药液，把补液管放入补液桶，必要时需把循环泵排气。
- 9) 如您是第一次清洗药槽，清洗完想检查一切是否正常，可冲洗几张试验胶片。

休假前...

如果冲片机将长于两个星期不使用，应排出所有药液。如不能马上进行清洗药槽工作，至少需要使药槽注满清水。

Depending on the quantity of processed films, a thorough cleaning is necessary every 3 months. Tank cleaners are available for developer and water baths. The fixer bath can be cleaned with water. When preparing chemical tank cleaners, follow manufacturers instructions explicitly.

How to proceed:

- a) Switch the machine off and empty all tanks by opening the stop cocks.
- b) Remove the machine cover. When all tanks are emptied, then close stop cocks again. Now fill the fixer-tank with water. Prepare cleaner solutions for developer and water baths and fill into the respective tanks.
- c) Remove the suction pipes from the replenisher containers and place them in water filled containers or buckets. Attention: Don't add chemical cleaners here!
- d) Close machine cover and switch machine on.
- e) Start processor by placing film in infeed that film detector switch is pressed down and film is not been pulled in.
- f) Keep the machine running for 10 to 20 minutes. During this procedure, the installed roller racks will be cleaned.
- g) Important: After completion of tank cleaning, these should be rinsed thoroughly with clean water-to do this, fill the machine with fresh water twice and each time, let the machine run for 10 minute periods. This is necessary to ensure that all tank cleaning chemicals are removed. Then remove roller-racks and rinse them thoroughly with water in a sink. Empty the tanks and reclose the stop cocks.
- h) Refill the tanks with respective chemicals and replace the suction pipes into the replenisher containers. If necessary ventilate the circulation pump.
- i) If this is your first time in cleaning tanks, and you want to check if everything is o.k., then you should run test films through the machine.

Before you go on holiday...

Or you don't need to use the machine for longer than two weeks, the chemicals must be emptied out of the tanks. If you don't want to do a complete tank-cleaning then at least you should fill the tanks with water.

您的冲片机是为长期，高频率使用而设计的。尽管如此也会偶尔出现问题这样需要您阅读下面的指南，自己查对一下。在您给维修师打电话之前，请您检查这几项。

Your processor has been constructed for intensive and long term use. If however irregularities should occur, you will find help to locate the problem below. Please check the listed points, before calling your service-technician.

胶片颜色不够黑

- 药液温度太低。
- 曝光时间太短。
- 显影药液过耗，应更换。
- 定影药液进了显影槽，必须更换新药液。此前要彻底清洗。



Films do not have enough density

- Bath temperature is too low.
- Exposure time is too short.
- Developer chemicals are exhausted:Renew.
- Fixer solution has been mixed into developer solution:Renew Make sure that the bath has been cleaned and rinsed well before refilling.

胶片太黑

- 药液温度太高。
- 曝光时间太长。
- 刚更换完药液，缺乏坚膜剂。



Too high a density

- Bath temperature is too high.
- Exposure time is too long.
- After renewing chemicals, starter is missing.

胶片不干

- 如果热气从空气槽中溢出，复查胶片型号及化学药品。
- 定影液过耗或进水。



Films will not dry

- When warm air comes out of air channel, chemicals and film type should be checked.
- Fixer solution is exhausted or diluted.

胶片呈黄绿色

- 胶片没有定透，复查胶片型号。
- 定影液过耗或进水。补充量太少。



Film material has a yellow-green surface

- Not correctly fixed. Check the film type.
- Fixer solution is exhausted or diluted Replenishment rate of fixer is too low.

胶片面有坑窝、划痕、脏

- 工作前应先进入几张清洁胶片。
- 操作不小心，指甲划痕等。
- 槽中轴架太脏，要清洗药槽和轴架。



Scratches, pressure marks, dirt on film

- Prior to starting work with the processor, run cleaner film through
- Pressure marks caused by careless handling, finger nails etc.
- Rollers are polluted. Clean tanks and roller racks.

机器不能开机

- 检查插座电压。
- 检查开关保险。
- 开机后检查下列组件：
检查电源插座电压，如无电压，更换电源开关。
检查电源连接电子器件的电压。
电压正常：更换电子器件。无电压：检查连接线。

胶片不传送风扇运转

- 检查主动轴和马达处的链轮的固定螺丝。

机器不能自动启动

- 机器入片弹簧开关位置不正确
拱形弹簧丝变形：矫正。
- 检查入片弹簧开关：入片弹簧开关损坏或电子元件坏。

机器不能自动停机，传动及风扇一直运转

- 禁止入片指示灯一直亮：入片弹簧开关丝卡住，重新矫正其位置
- 电子元件损坏，更换。

清水不注入

- 水压太低：至少要2巴。
- 电磁阀工作但是无水流：电磁阀过滤片堵。

水槽溢水

- 进水量太多。
溢水管打死折。水管末端需在废液水平面上。
- 水箱，水管中长藻类。
- 如果藻类太多，可将溢水管直接连接在水箱中。

Machine without voltage

- Ensure that electrical socket has power supply.
- Check machine fuse in master switch.
- While power switch is on, check the following components:
Voltage on plug-if no voltage-change plug.
Check voltage at electronics connections if the voltage is normal, exchange the electronics. If no voltage can be registered, check the cable wiring harness.

Filmfeed out of order, dryer-fan is working

- Check chain gear screws on motor-and driveshaft.

Maching does not start automatically

- Film-detection switch is not correctly positioned. Operator wire is bent.
- Check Film-detection connections. Film-detections switch or electronics are defect-replace.

Machine doesn't stop automatically, motor and ventilator run continuously.

- Overlapping protection LED is permanently illuminated: Wire band of film detection is jammed. Readjust wire.
- Electronic is defect-replace.

Rinsing water does not flow

- Water pressure in the water system is too low: Minimum pressure 2bar.
- Valve activates, no flow passage-filter at inflow is blocked.

Water tank overflows

- The cupour water tas much.
Water drainage tube (overflow) should have a constant fall. The tube end should be positioned above the drainage level in the syphon.
- Check water drainage in the tank and tube for blockage and pollution.
- When extreme algae growth is registered, the overflow can be connected directly onto the fitting of the water tank.

显影温度太高

- 检查温感器：温感器需固定在连接喉管上并用海绵密封包裹上。
- 电子元件损坏、更换。

显影温度太低

- 循环泵中有空气：排气。
- 没有循环：循环泵没有电压或损坏。
- 热交换器的过热保护器损坏。
- 检查加热棒：电阻约为80欧姆。
- 检查温感器
- 电子元件损坏、更换。

Developer temperature to high

- Check temperature feeler. The feeler should be firmly positioned on tube and completely be covered with foam rubber.
- Electronis defect-exchange.

Developer femperature too low

- Air in the circulation pump: Ventilate pump.
- No circulation: Circulation pump has no power supply or is defect.
- Temperature limiter of the heat-exchanger is defect.
- Check heating element: current flow resistance should read approx. 60W.
- Check temperature feeler.
- Electronics detect-exchange.

胶片不干

- 烘干槽内没有热风吹出：风扇坏，更换。
- 只吹出冷风：加热丝坏，更换。
- 在烘干管内吹出热风，但胶片干燥不理想，检查是否为药液或胶片问题。也可降低机器运行速度。

风扇不工作或半工作

- 检查风扇连接线。
- 更换风扇连接线，马达不完全工作，可能是加热丝灼热。

药液补充泵不补充

- 清洁补充泵单向阀。
- 补充管路中进入空气。检查连接管路密封性。
- 检查补充设置：最大补充量为119毫升/分钟。

补充量太大或太小

- 补充量可通过调节泵的冲程而改变。可调节补充泵的刻度盘，最大补充量119毫升/分钟。

胶片运行不规律

- 检查机器轴架位置，锁上锁销。检查轴架旁齿轮。检查过桥导板位置及辊轴压力。
- 主动马达工作，主动轴上的蜗轮必须同斜齿轮充分咬合。检查链齿轮位置及固定螺丝。

Films will not dry

- No air comes out of air channel: the ventilator is defect and should be exchanged.
- Cold air comes out of air channel, the heating element in the air channel is defect, exchanged.
- Hot air comes out of air channel, but the film is still not dried to satisfaction. If after checking the chemicals and film type, no reason can be found, then the speed of the machine can be reduced.

Ventilation does not function or fan runs half power

- Check the correct connecting of the ventilation cables.
- If the connecting wires of the fan are wrongly connected, then the condenser motor runs only half power, this can be recognized by the glowing of the heating element.

Replenisher pump does not pump

- Clean valves on the connecting pieces.
- Replenisher tube sucks air in. Check the connections.
- Check excenter positioning. Transport quantity reads 119ml/min at maximum adjustment.

Replenishment rates are too high or too low

- The replenishment rate can be altered by adjusting the stroke of the pump. To do this the excenter on the replenisher pump must be adjusted. Max.pumprate 119 ml/min.

The film does not transport correctly

- Check the positioning of the racks in the machine and make sure that the latches are closed. Check the gears on the roller racks, the position of the guide elements and the roller pressure.
- Motor runs: The worm gear of the drive shaft should be secured with a splint to avoid twisting. Check the screws and positioning of the gear chain.

马达不工作

- 马达有电压：马达损坏，更换马达。
- 风扇运转，马达无电压：入流处短路。

胶片上有划痕，压痕，脏

- 直的划痕是过桥导板上的毛病。逐个检查轴架，矫正导板。更换有毛病的导板。
- 压痕是由于辊轴脏或损坏。必要时更换有毛病的辊轴。

药槽中没有循环

- 循环泵工作，没有循环：加热，循环系统中进入空气。排气。（见“安装”）
- 泵室中脏。松开六个螺丝打开泵室，清洁。在关闭时注意密封性及完好性。

Motor does not run

- Motor has voltage: Exchange motor.
- Ventilator runs but no voltage on motor: Interruption in the current flow.

Scratches, pressure marks, dirt on film

- Straight scratches in the infeed direction indicate faulty guide elements. Check each rack and straighten up the guide elements. If mechanically damaged, replace the guide elements.
- Pressure marks caused due to polluted or damaged rollers: Exchange rollers.

No circulation in bath

- Circulation pump does not function, no circulation: Air in heating and circulation system. Dirt in the pump chamber.
- Pollution in the pump chamber. The pump chamber can be easily opened by removing the six clips. When reclosing ensure that the rubber seal is positioned correctly and not damaged.

用户须知：

一、用户购买本公司产品后，先按装箱单核检仪器及配件是否齐全，核对后请认真阅读此使用手册，在了解了该仪器的使用操作后再对该仪器进行实际的应用。

二、本公司产品从用户购买之日起，若出现质量问题，请与本公司仪器技术服务中心联系。

三、凡因用户自行拆装本公司产品、因运输、保管不当或未按产品说明书正确操作造成产品损坏，本公司将有权不予以保修。

四、请按照使用说明正确使用，如发现异常，请停止使用并请及时与我公司联系。