TLAS-80UV

AUTOMATICALLY PEN-ROD SCREEN PRINTER

OPERATION INSTRUCTION

Contents

◆ Basic function and parameter

✧ Basic Function:

Totally automatic of loading and unloading goods, be able of single-way or double-way printing. Printing speed and store case are adjustable. Taiwan-made transducer controlling for consistency of torsion, ensuring high printing quality. Adopting IR infrared radiation or UV ultraviolet ray curing system printing and drying at same period. Wildly used for single-color high speed printing of pen、 ball pen、cosmetic bottles、 injector all cylindrical items.

✧ Parameters

Printing Diameter	Φ3~Φ20mm	Printing length	60~160mm
Printing stroke	80mm	Speed	8000psc/h
Voltage Power	220V 50/Hz 5.5kw	Color type	Single
Size (mm)	3200×1100×1550mm	Weight	≈600kg

◆ Structure
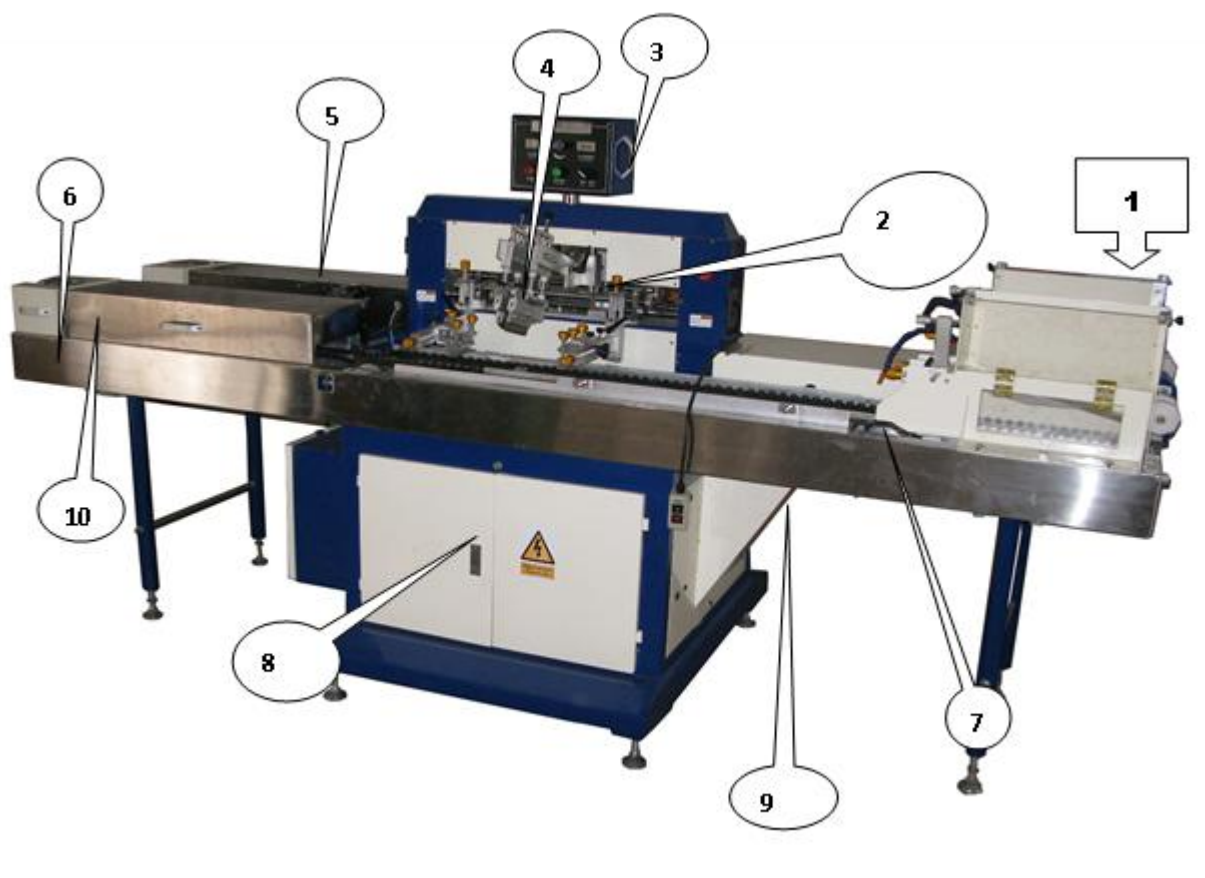
1) Container: container of printing objects
2) Printing head assembly;

3) Controlling panel;

4) Stencil frame;

5) Drying oven- include UV and IR drying system

6) Unloading way;

7) Feeding part: feeding printing objects;

8) Cabinet: the machine cabinet;

9) Switch: General switch

10) Cooing oven

◆ Operation and adjustment

✧ Operation panel

Operation panel of KC-TLAS-80 Pen Pad Screen printer
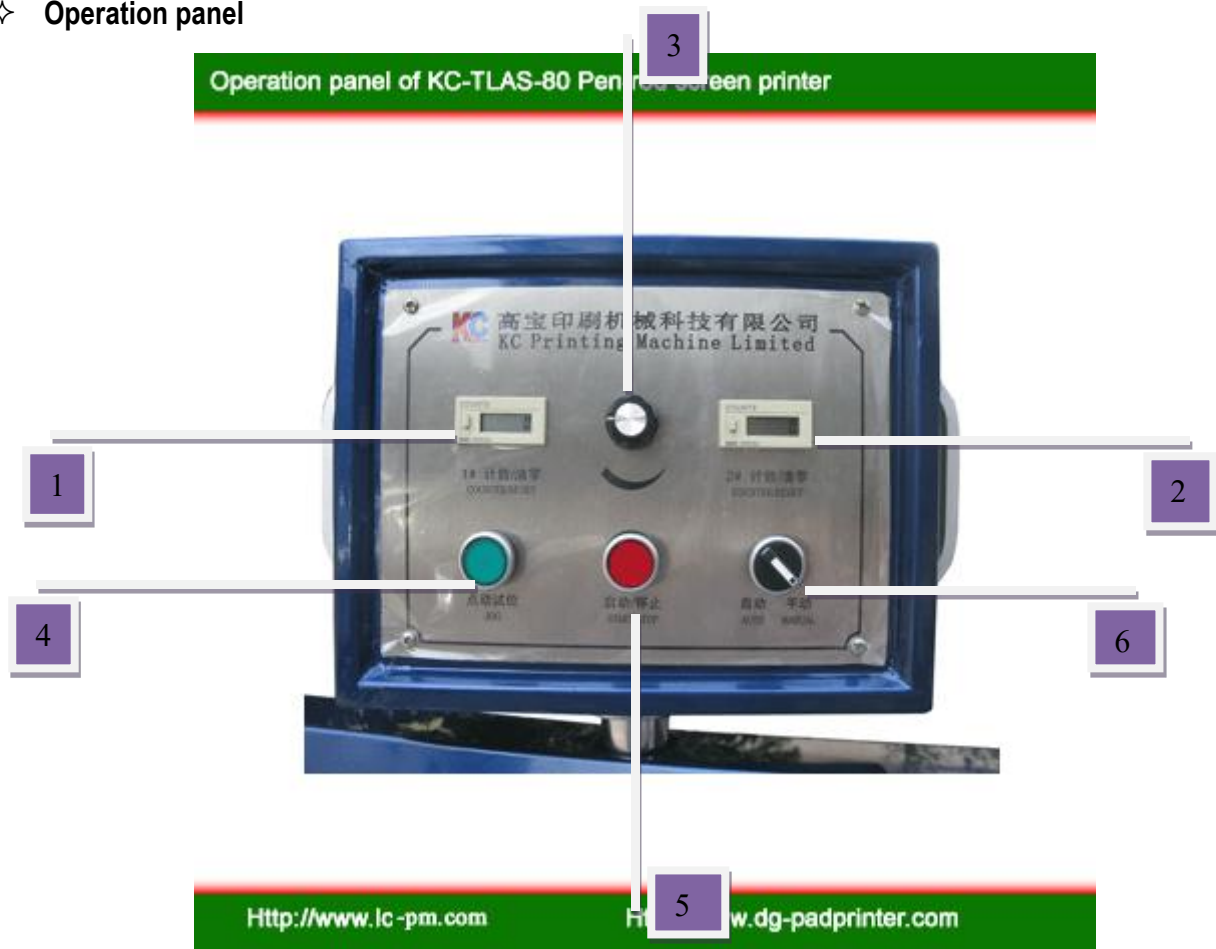
1) **1#COUNTER**: counter of 1# printing way, the number will add one when the machine print one pen one time. Lifting

   and press butten gently the numer will return to zero.

2) **2#COUNTER**:use it the same with 1# counter.

3) **SPEED KNOB**: use for adjusting printing speed.

4) **JOG**: JOG only effective when the AUTO/MANUAL knob is on manual. Machine will run one displacement when you press jog. It used for adjusting screen frame match with pen for printing.

5) **START / STOP**: this button only effective when AUTO/MANUAL knob on AUTO. This button used to control machine's printing action.

6) **AUTO/MANUAL**: use MANUAL with JOG when adjusting machine, once finishe adjusting, use AUTO with START to running machine.

✧ **Printing Head Assembly**

1) **Scraping Blade Pressure Adjustment**: to increase/decrease the printing ink scraping pressure and flooding depth. It is recommend to adjust step by step while test printing.
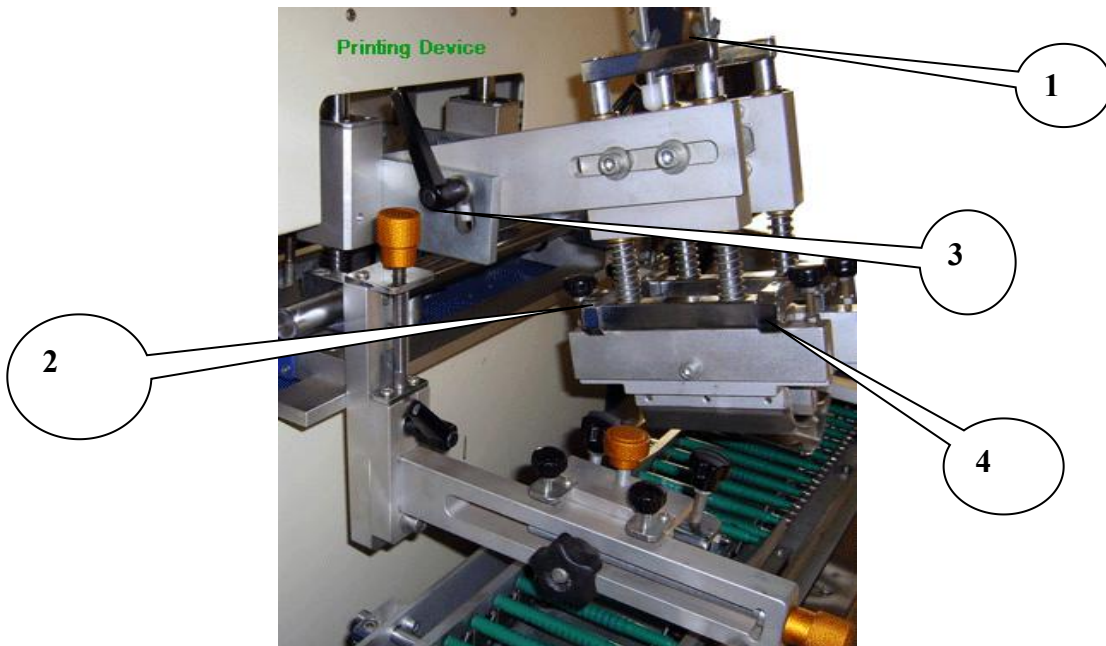
2) **Scraping Blade Swing Angle Adjustment:**
    To make scraping blade upright over center line of printing items.

3) **Printing Head Position-lock**:
    Loosen it and lift printing head assembly for screen stencil replacement.

4) **Scraping Blade Rear to Front Angle Adjustment**:
    There are two adjust-knobs rear and front, they should be adjusted in match, to make scraping blade be parallel with screen fabric and surface of printing stock that to be printed.

✧ **Scraping Blade Middle Adjustment**

1) **Scraping Blade Adjusting screw**:

To adjust the relative between scraping blade and the printing stock' axis. The two up and down parallel the blade; the two rear and front adjusting the angle. It is recommend to adjust step by step while test printing.

2) **Ink Flooding Scraping Blade Adjusting Screw**:

To adjust the relative between the ink flooding scraping blade and the printing stock' axis. The two up and down parallel the blade, two rear and front adjusting the angle. It is recommend to adjust step by step. Locking the screw above at
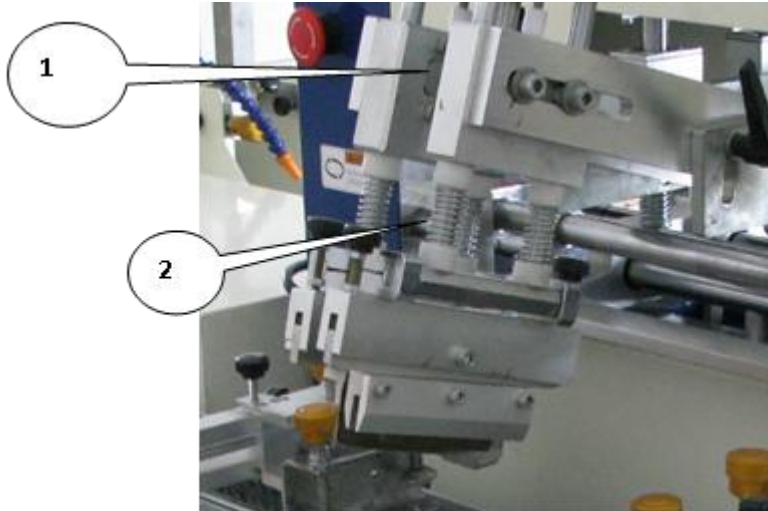
last.

✧ **Screen Stencil Adjustment**
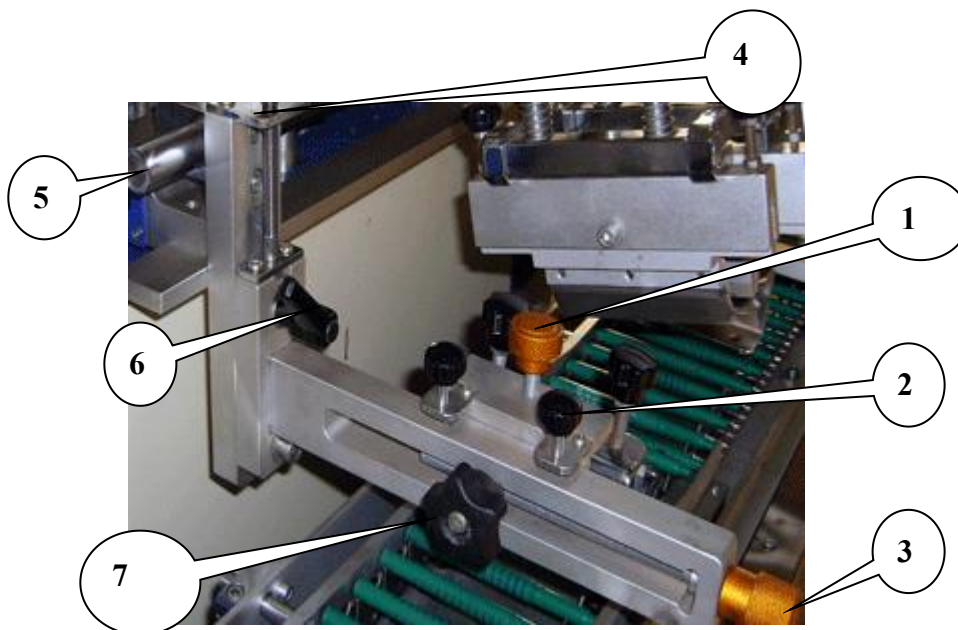
(1) **Stencil Clip locking-knob**: after loosen two knobs in left/right sides, then can replace screen stencil to clear. Next time, load the screen stencil directly and locking the screw no need to check the pattern.

(2) **Stencil Clip Angle adjust-knob**: to adjust two knobs in match, they can make stencil be parallel surface of printing stock that to be printed. It is recommend to adjust step by step while test printing.

(3) **Stencil rear/front adjust-knob**: to adjust two knob in match, making screen stencil in right rear/front position. Gradually adjustment is needed until fine printing results getting.

(4) **Stencil Clip Height adjust-knob**: normally, the space between surface of printing object and fabric of screen stencil

should be 1mm. Big space will make blank printing while small space will make blurred-image or distortion-image.

(5) **Stencil Clip Height adjust-knob**: to adjust left/right position of screen, be locking after fine adjustment.

(6) **Stencil Clip locking-handle**: after screen stencil's vertical position choosing properly, locking it for normal printing.

(7) **Stencil Clip locking-knob**: after screen stencil's horizontal position choosing properly, locking it for normal printing.

✧ **Printing Stroke Adjustment**
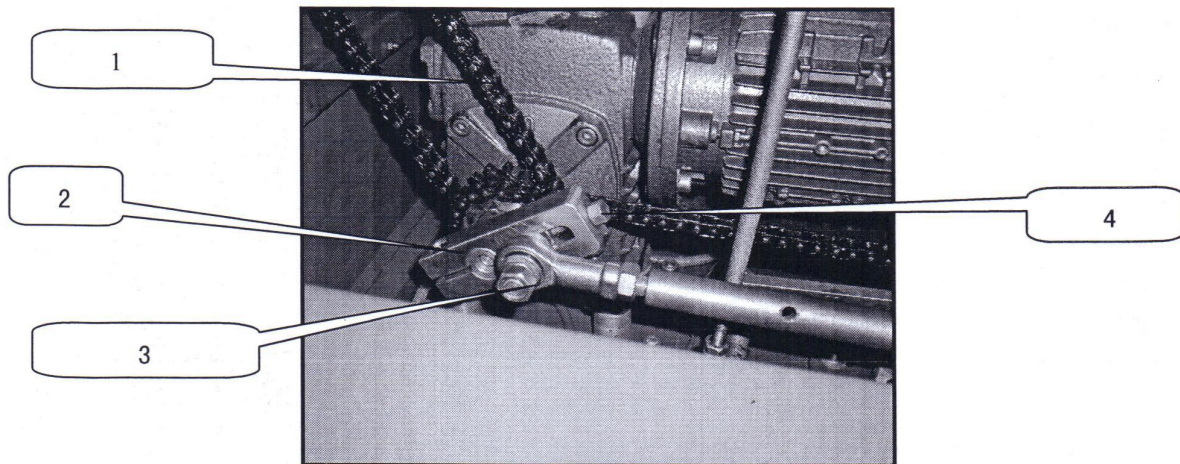
(Diagram 5)

1) **Driven Chain**: Don't adjust at random as the position has been set well as default before out of factory.

2) **Crank**: driving the printing stroke. The distance between the crank locking screw and the power axis is half of the printing stroke, it may depends on situation.

3) **Crank locking-screw**: loosen and locking it before stroke adjustment and the stroke adjustment.

4) **Stroke Screw**: to adjust printing stroke and it's range is 0~20mm, do lock the crank screw after adjustment.

✧ **Printing Holding Way Adjustment**
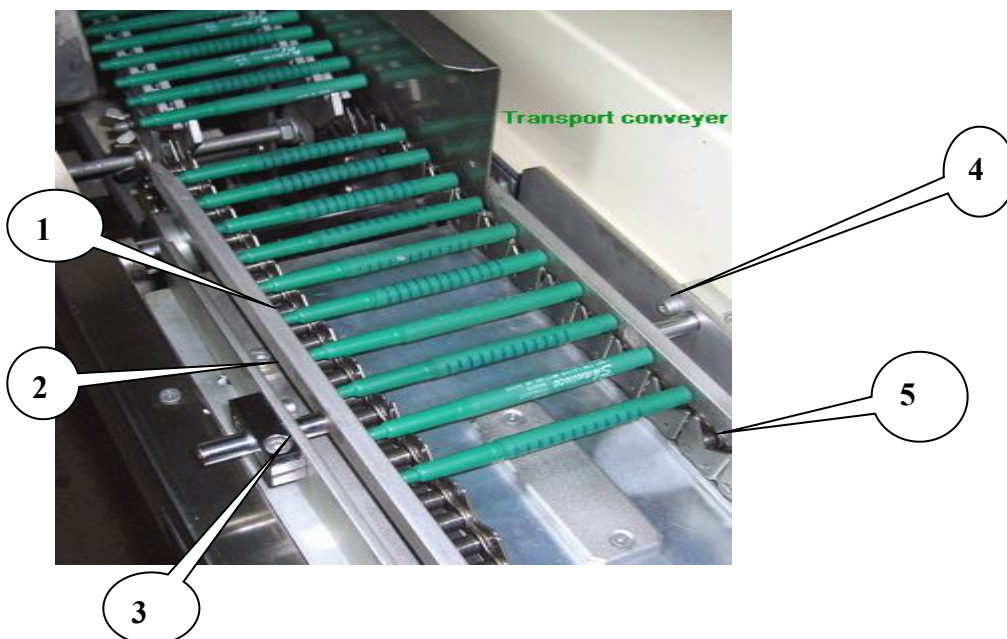
(1).Dam Plate: adjusting it with sprocket to and fro, making sure the chain is in the middle.

(2).Base Panel Screw

(3).Dam Plate Screw

(4).Base Panel: adjusting it depends on the printing length, then locking the base panel screw and the dam plate screw.

(5).Printing Stock Holding Chain

✧ Arranging and Speed Control

1.Arranging Wheel: adjusting it's position, making sure Printing stock not inclined, remember to lock the
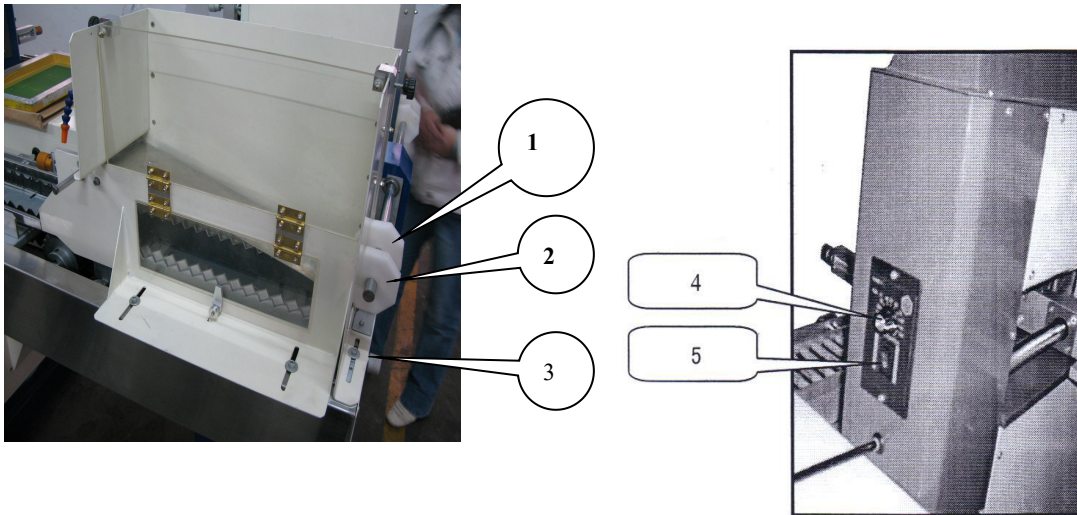
screw of it at last.

2.Arranging Wheel locking-screw:

3.Active-plate Adjustment:

4.Arranging Speed Control: adjust the arranging motor speed, make printing stock constantly.

5.Arranging Button: to start/stop the arranging motor.

✧ Feeding Adjustment

1.Container: container of printing stocks. Adjusting the fender's position depends on the length of printing stocks, making the printing stock on best position.

2.Active Slice(can't be seen in the diagram): adjusting it's angle make the distance between it's top, and the dead-toothed panel is three diameters of printing stocks. It depends on situation. It's extending change with the diameter of printing stock direct. Do lock the screw above after adjustment.
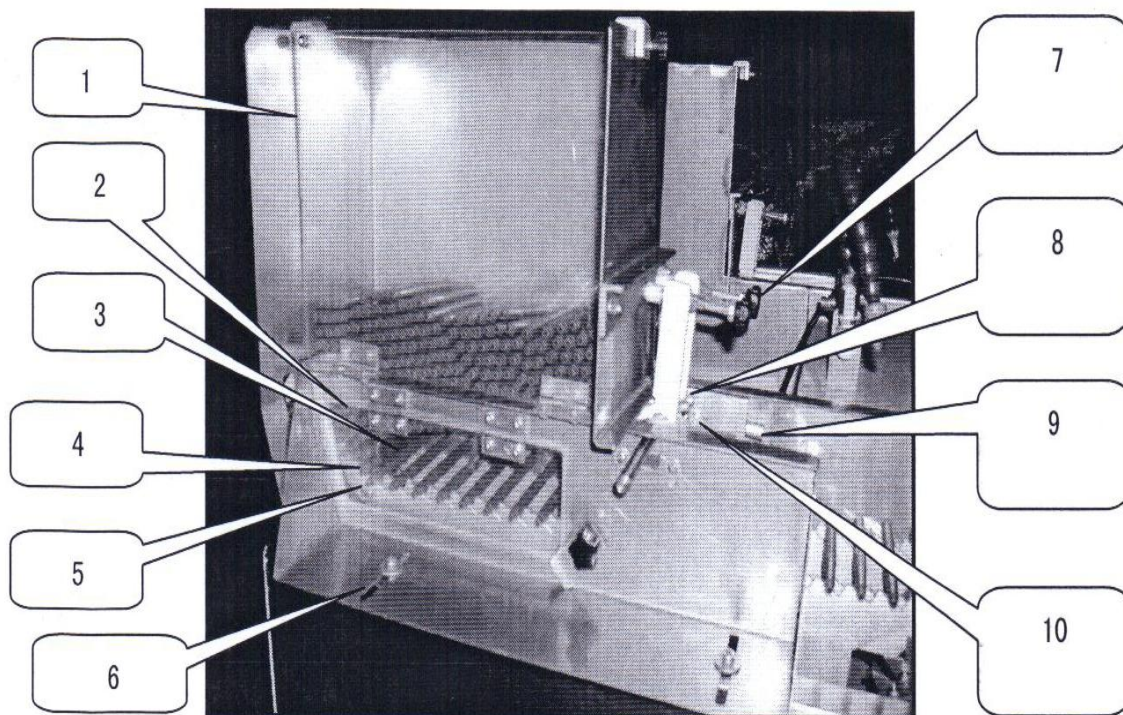
（Diagram 8）

3.Slipping Plate:

   Adjusting the space between it's end and the active slice more than one diameter and small than two. Then, locking the screw above. If the diameter of printing-items is over 15mm, it need to expend the space between slipping plate and active slice, three tooth best.

4.Pen-holder A;

5.Pen-holder B;

6.Container case: adjusting it make it have a litter distance from printing stock. Then locking the screw.

7.Slipping Plate angle-knob:

  Adjusting it's depth, make the height between slipping plate and the top of dead-toothed panel is 1.5time diameter of pen holder, which the machine spit one pen holder a time constantly. It recommend to adjust step by step while test printing.

8.Slipping Plate locking-ring:

    Adjusting it make the slipping plate is in the middle of printing stock.

9.Slipping Stand Knob:

  Fine adjusting it match with the slipping angle-knob. Making the items constantly. Locking the screw after adjustment.

10.Slipping stand locking-screw.
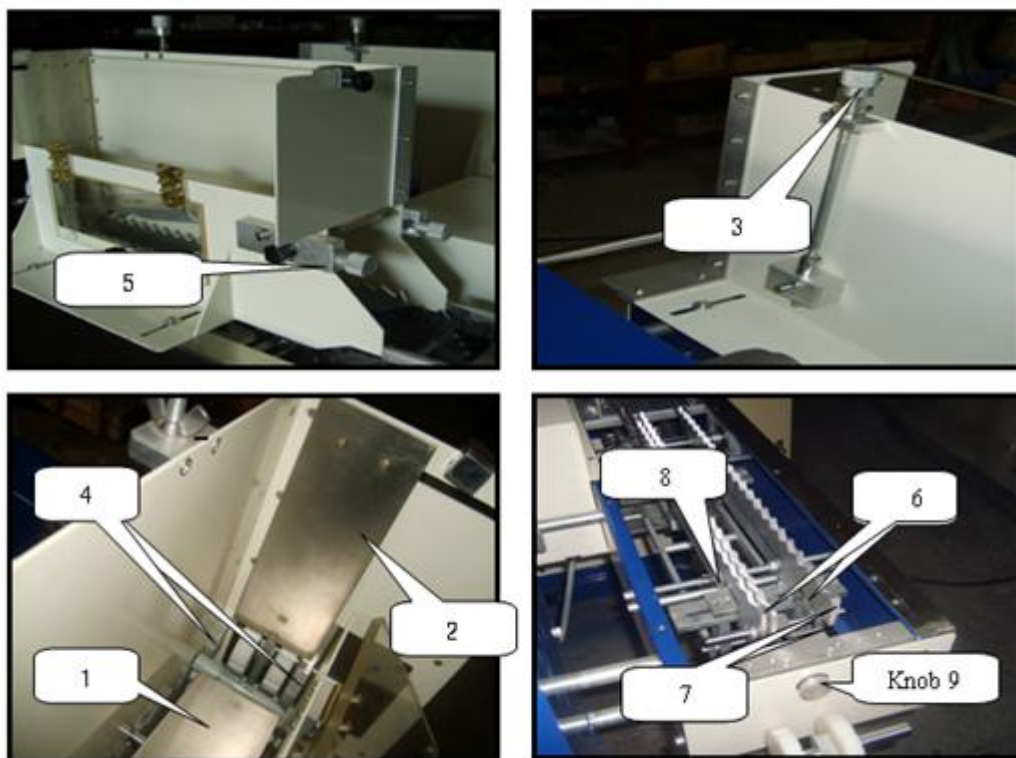
✧ Delivering Adjustment

1.Dead-toothed Panel: fine adjusting the active-plate adjustment (diagram 7) at the rear of the container make printing stock delivered constantly. Then locking the four button fly-screws at the rear and front.

2.Ebttonfly-screw.
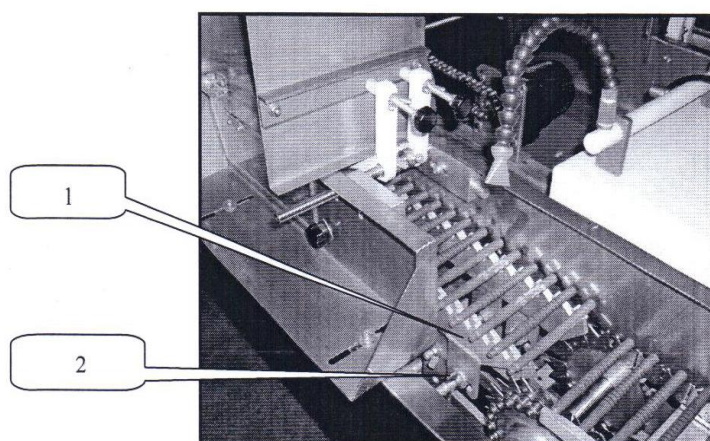
(Diagram 9)

✧ Holding Adjustment

1.Printing Bearing: it need wipe frequently. Making sure it clean and agile .
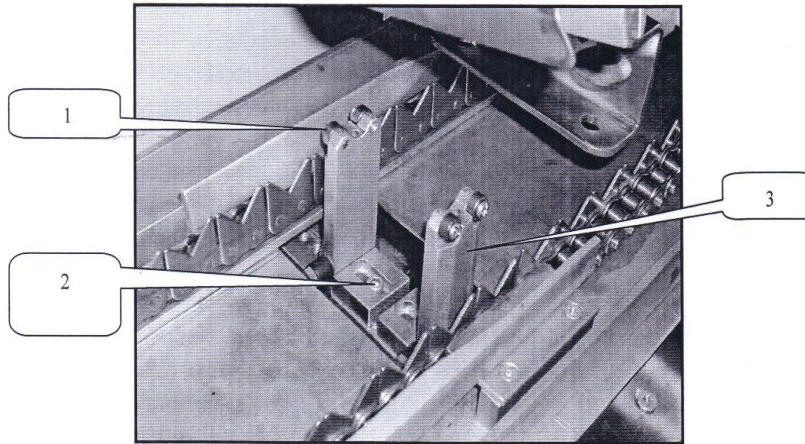
2.Holding Stand locking-screw: adjusting it depends if different length of printing object Making sure there are 1.5mm space between printing bearing locking screw and the chain to prevent knock.

3.Holding Stand;

(Diagram 10)

✧ **Printing Cam Adjustment**

1.Holding dead-cam: position of this can determine the angle of scraping blade, the default setting is already and user do not need to adjust it.

2.Holding active-cam: user could adjust the overlap shortest when the two cams overlapped completely and when they crossed in maximum angle then stroke can be biggest.
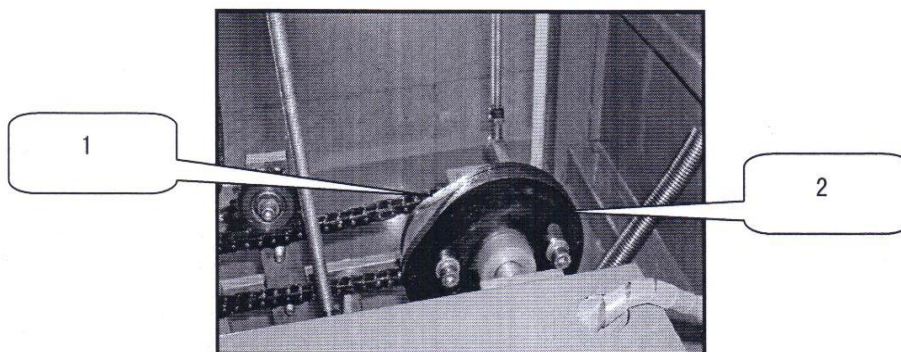
✧ **Temperature setting**

1#2#Oven: temperature controller;
1#2#Oven Temperature Setting: normal temperature 80~120degree by C. it control temperature

(Diagram 11)

automatically. When the temperature reach the setting, the power stop automatically, when the temperature below the setting, the oven start automatically.

1#2#Oven Switch: start/stop the oven.

Chain speed control: controlling the speed of chain in the oven, it match with the printing speed. Making sure two printing stocks won't on one tooth and have enough time to dry.
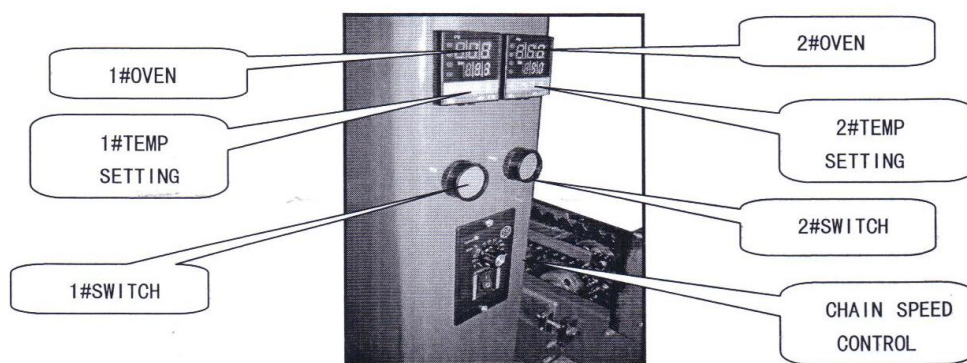
(Diagram 12)

✧ Flame & Drying Control

Choose the IR/UV drying system you need on Diagram 13, then start drying operation.
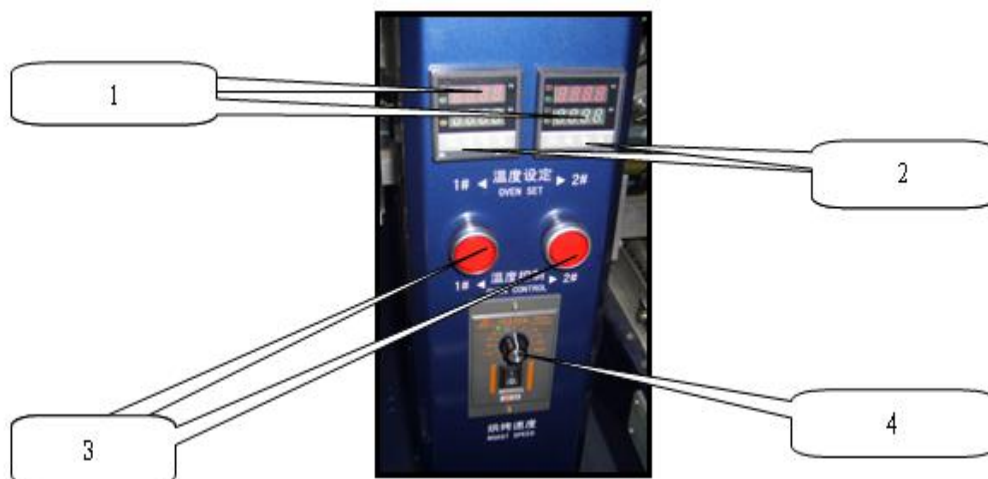
Diagram 11

(1) 1# 2# Oven temperature screen.

(2) 1# 2# Oven Temperature Setting: normal temperature 90 ~ 110 degrees. It controls temperature automatically. When the temperature reach the setting number, the power stop automatically, when the temperature below the setting number, the oven start working automatically.

(3) 1# 2# Oven Power Switch: start/stop the oven.

(4) Chain speed control: control running speed of chain in the oven, adjust it matched with print delivery chain and enough time for drying.
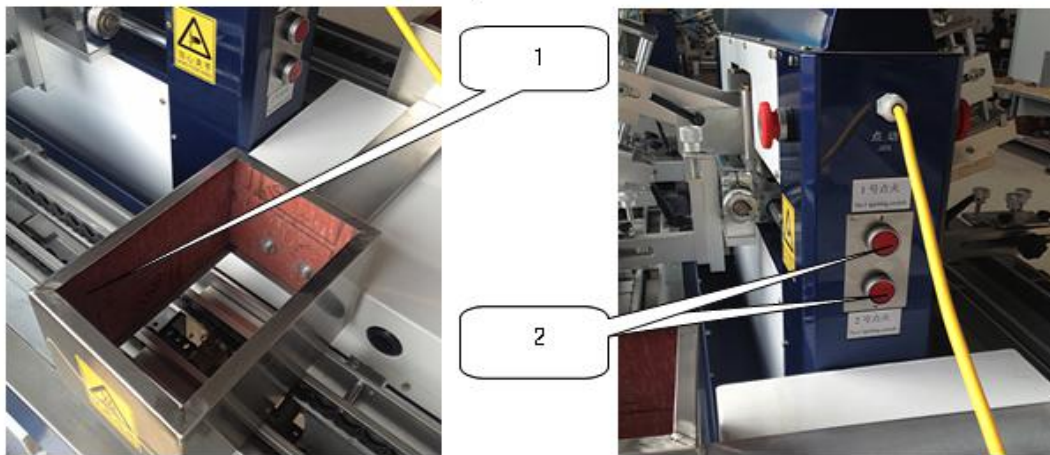
Diagram 12

Flame Unit and UV Curable Unit Operation Instruction

(1) Flame safety guard: Pls keep horizontal distance with flame safety guard, in order to avoid burning once flame strong.

(2) 1#2#Flame Light switch: Press to light flame unit, these two switches only effective when machine on AUTO running

state.

Diagram 13

(1) 1#2# UV/IR Drying unit knob: when IR drying unit needed, pls rotary this switch to IR. Then use switches in Diagram 14

to control IR drying unit. When UV drying unit needed, turn them to UV, control UV curable unit by switches below.

(2) 1#2# UV Curable power switch: press it to light UV.

✧ **Reference For adjustment And Matters need attention**
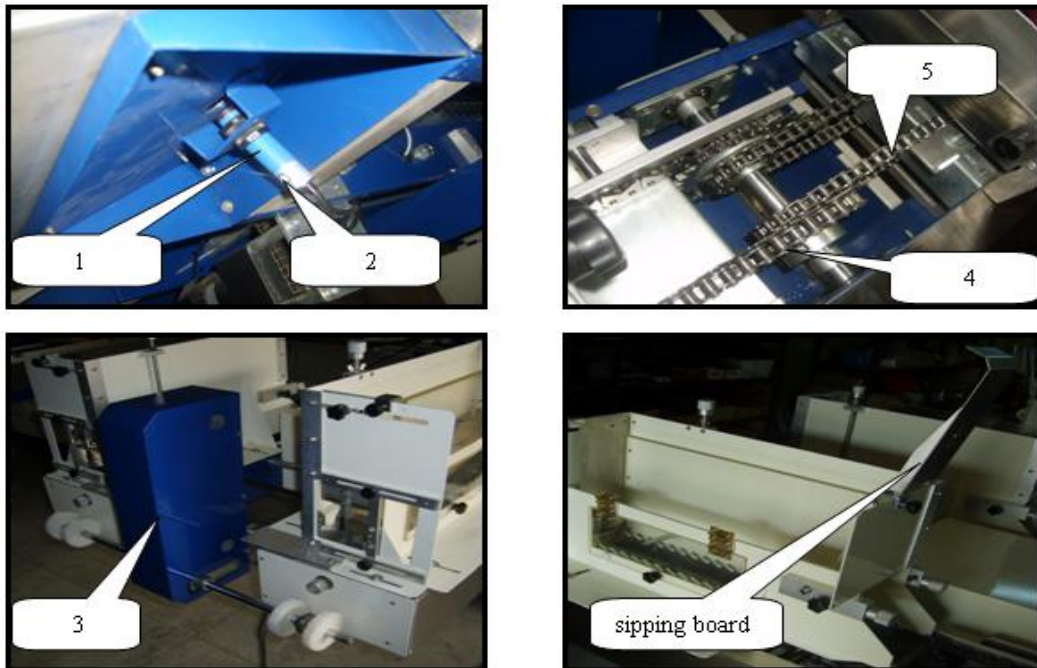
Diagram 14

(1) Photo-electronic switch:

One switch for each printing line, it fixed on the bottom of slipping way, and here are one small white button for adjusting it's

strength.

(2) Signal knob:

Rotate clockwise to strength the signal while anticlockwise to weaken, the signal   may change depends on different color of

pens.

(3) String unit box:

This box can be lift when adjusting. At the bottom of it there are two M6 screws, loose them can move the box to adjust the

distance between string gum-wheel and pens.

(4) Printing delivery chain.

(5) Drying Oven chain:

Notice that any friction between printing delivery chain and drying oven chain is not allowed, or the friction will break these chains.
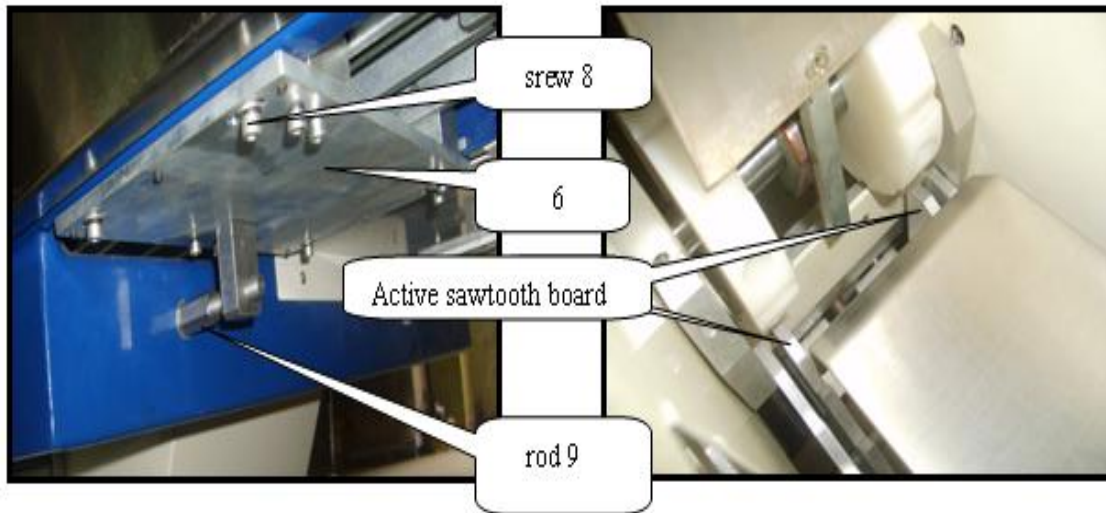
(6) Active saw-tooth board Stand:

Once pen crash the active tooth board, and   no effect after adjusting rest saw-tooth board & slipping board, then you can try adjusting this stand. Loose the four screws（screw 8） at the bottom of this stand, adjusting screw rods (rod 9)with JOG running machine to reach smoothly upload pens.

*Limit position of active saw-tooth board: while adjusting active saw-tooth board, notice that it shouldn't be too near to string cam wheel, or the friction will obstruct pen's uploading.

Website: Http://www.dg-padprinter.com
Online contact   Skype: yingsuhuakelven QQ: 726986799
Email:cjscbsf@126.com   13592766499@VIP.163.com

◆ Troubles and shooting

Phenomenon of troubles	reasons	Solve Methods
1.no pattern	Scraping blade too high or the stencil blocked	Adjusting the scraping blade
2.pattern deformed	Stencil lack tension or the stencil panel too high	Adjusting stencil
3.pattern deformed	Printing stock too long over the circumference of printing stock	Adjusting the printing stock
4.patter wire drawing	Stencil is not clean	Clean the stencil
5.patter damp	Wrong ink or the oven temperature to low	Change ink or increase oven temperature
6.deviling printing stocks overlapped	Distance between active toothed panel and the dead	Adjusting the distance or change the active toothed panel and the dead toothed
7.delving printing stocks inclined	Active slice too high or the two chain too closed	Adjusting the active slice or the distance between two chains
8.deliving printing stocks inconstantly	Active slice too high	Adjusting the active slice
9.rut noise	Lack of lubricant	Add lubricant
10. crash noise	Slipping chain is not straight with oven chain or pens too close with slipping chain	Make chains straight Adjust the distance of pens and chain

◆ Accessories

ordinal	Name and quantity
1	One Operation Instructions(include frequency conversion instructions)
2	A set of common tools and tool-box
3	A air of spare scraping blade folder and ink flooding scrapping blade folder

◆ Temperature setting

VI. CARE OF WHEN OPERATION

1.check the instrument division standards and the voltage to make sure it is you order.

2.connect it diagram correct.

3.use some material compensate wire for hot galvanic coupling input signal.

4.use the same standards low impede for the hot resistance input line, or the three wires same length

5.Don't confuse the power input line with the sensor signal input line, or the instrument may be burnout; that don't be repaired.

The outputting terminal can't be short by strong current.

6.separating instrument wires, signal wires with strong current transfer wires to reduce electromagnetic radiation If can't,

please use screened wires.

7.make out the follows when order

(1).type of instrument   (2).sensor division   (3).instrument output type   (4).temperature measure range

(5).other special technical, function requirement

VII. SIMPLE REPAIRMENT

1.If user thinks the instrument out of control, please check sensor and the line connect.
If all display and output   are normal but the instrument is out of control, please check the output control wire; whether there is short. Breaking or wrong connect leads the internal component of instrument broken. User can cut power and open the instrument to check whether the output terminal clutch gold and the output protect-oral resistance have been burnout.

TLAS-8R 全自动笔杆丝印机电路接线图

Website: Http://www.dg-padprinter.com
Online contact Skype: yingsuhuakelven QQ: 726986799
Email: cjscbsf@126.com   13592766499@VIP.163.com

CONNECTLINE AGRAM
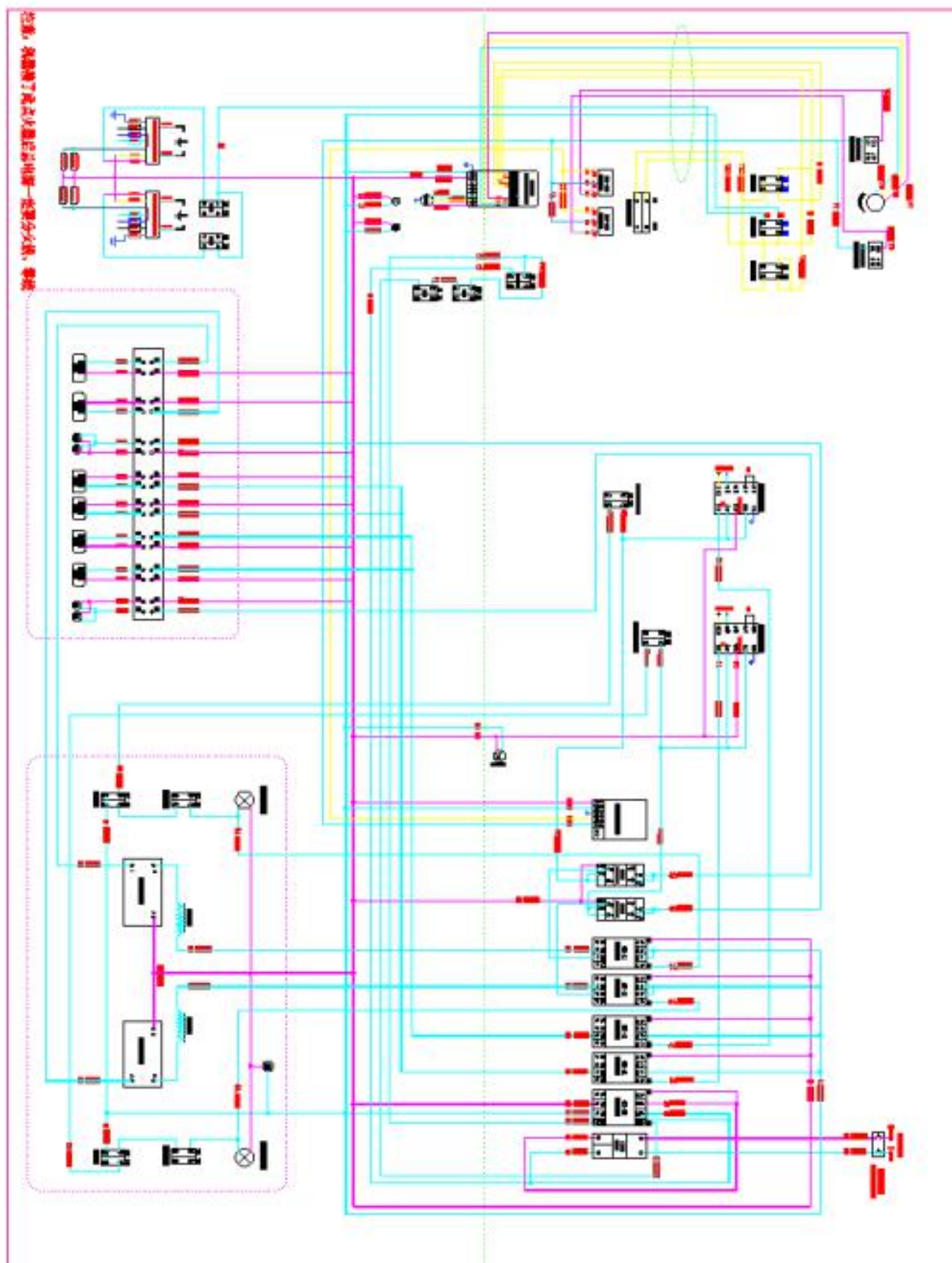
STENCIL AND ROLL OF FILM POSITION DIAGRAM
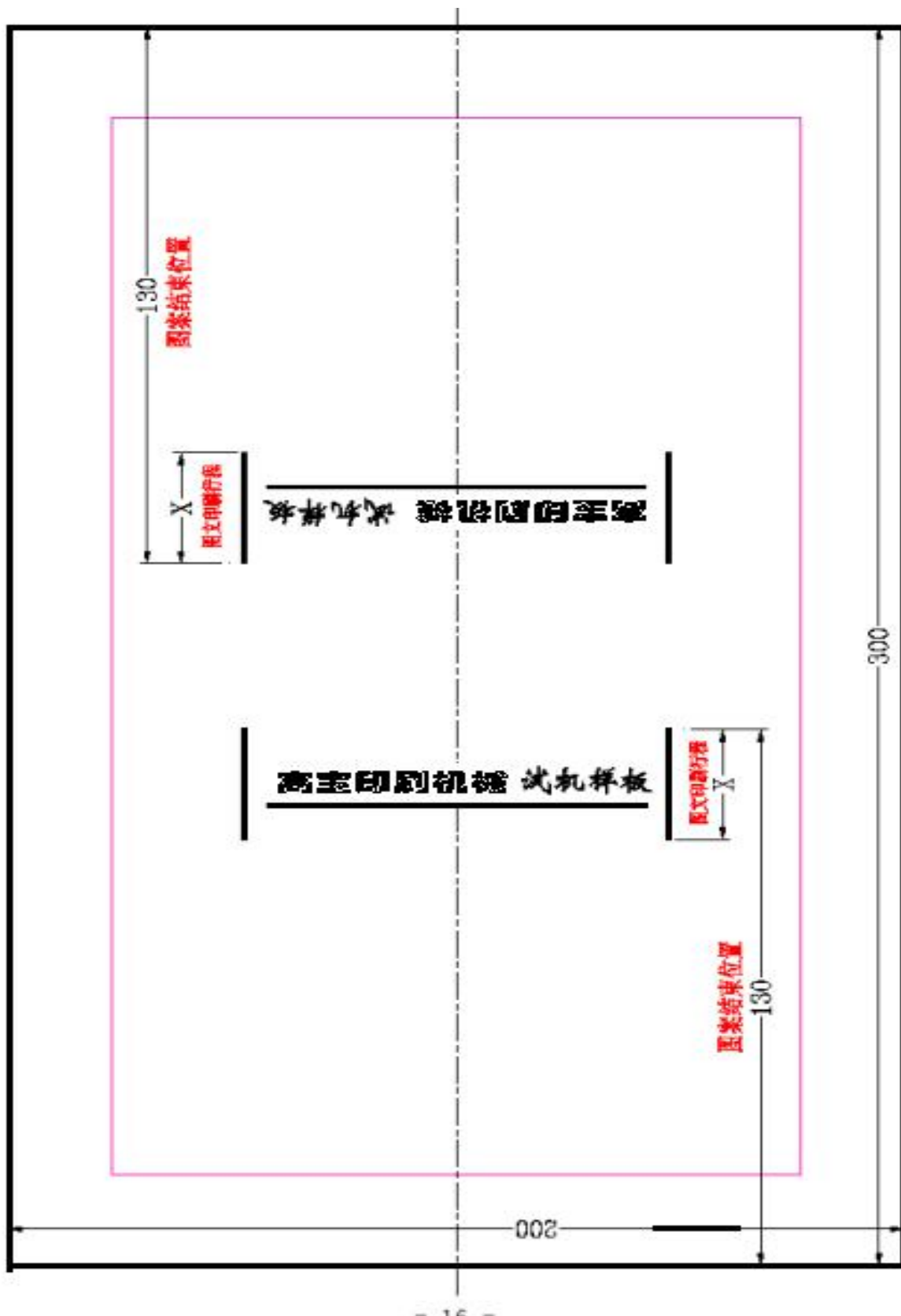
IR DRYING OVEN TEMPERATURE SETTING

TYPE (REX-C10FX02-M*EF) PID intelligent temperature setting device

First of all thank you for using our machine. This series of devices depends on the most sophisticated control theory, adopting microcomputer MCU(Micro-controller Unit) to control, and have the PID self-adjustment function. Before using it please read this instruction carefully.

I. TYPE

R E X – – – ① ② ③ ④ – ⑤ * ⑥ ⑦

|
Device type

① —————————————————

Size type	panel	Install hole
C900	96×96	92×92
C700	72×72	68×68
C400	48×96	45×92
C410	96×48	92×45
C10	48×48	45×45

② F --- have PID function

③ Input: K— K flame couple
      J— J flame couple
      S— S flame couple
      D— D flame couple

④ Temperature range:
    02：0—400℃   05：0—999℃   06：0—1200℃
    07：0—1372℃   08：0—1600℃

⑤ Out：M—relay contactor output
    V—no contactor voltage p；use output drive solid relay SSR
    8—D．C   4~20mA   output
    G—transpose pulse output，connect control silicon

⑥ Alarm 1：
    N—no alarm
    E—deviation top limit alarm
    F—deviation base limit alarm
    H—absolute top limit alarm
    L—absolute base limit alarm

⑦ Alarm 2：refer to alarm 2

Example: C900fk06—V*EN

Means: panel:96×96;have PID self-adjustment function K flame couple;
    TEMP range 0~1200℃;no contactor voltage pulse output(drive solid relay SSR);
    ALM1—deviation top limit alarm; no alarm 2

Ⅱ.OPERATION FLOW CHART

```
┌─────────────────────┐
│ Connect line correct │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│    Start machine     │
└─────────────────────┘
          │
          ▼
┌─────────┬───────────┐
│ Common  │  ⊞⊞⊞⊞  PV │
│ control │           │
│ state   │  ⊞⊞⊞⊞  SV │
└─────────┴───────────┘
```

Press for 0.5s   Press for 5s

```
┌─────────┬───────────┐
│ Master  │    SO     │
│ control │           │
│ state   │  ⊞⊞⊞⊞    │
└─────────┴───────────┘
```

Press for 0.5s

Function key instruction

SET: Flow control key

◄ : displacemem setting key

▲ : value increase

▼ : value decrease

Press: ▲ 01 means allowed AT
　　　 ▼ 00 means shout AT

00: all parameter allowed change
01: only master parameter can be change
02: all parameter not allowed change

| Base limit alarm setting | SLP |
Press SET 0.5s

| TOP limit alarm setting | SHP |
Press SET 0.5s

| Sensor revisc setting state | Sc |
Press SET 0.5s

| TOP limit master temperature | SOH |
Press SET 0.5s

| Proportion setting | P |
Press SET 0.5s

| Integral time setting | ⅃ |
Press SET 0.5s

| Differential setting | d |
Press SET 0.5s

| Output switch cycle setting | Γ |
Press SET 0.5s

| Self-adjustment alarm setting | Ar |
Press SET 0.5s

| Parameter lock setting state | LOK |
Press SET 0.5s
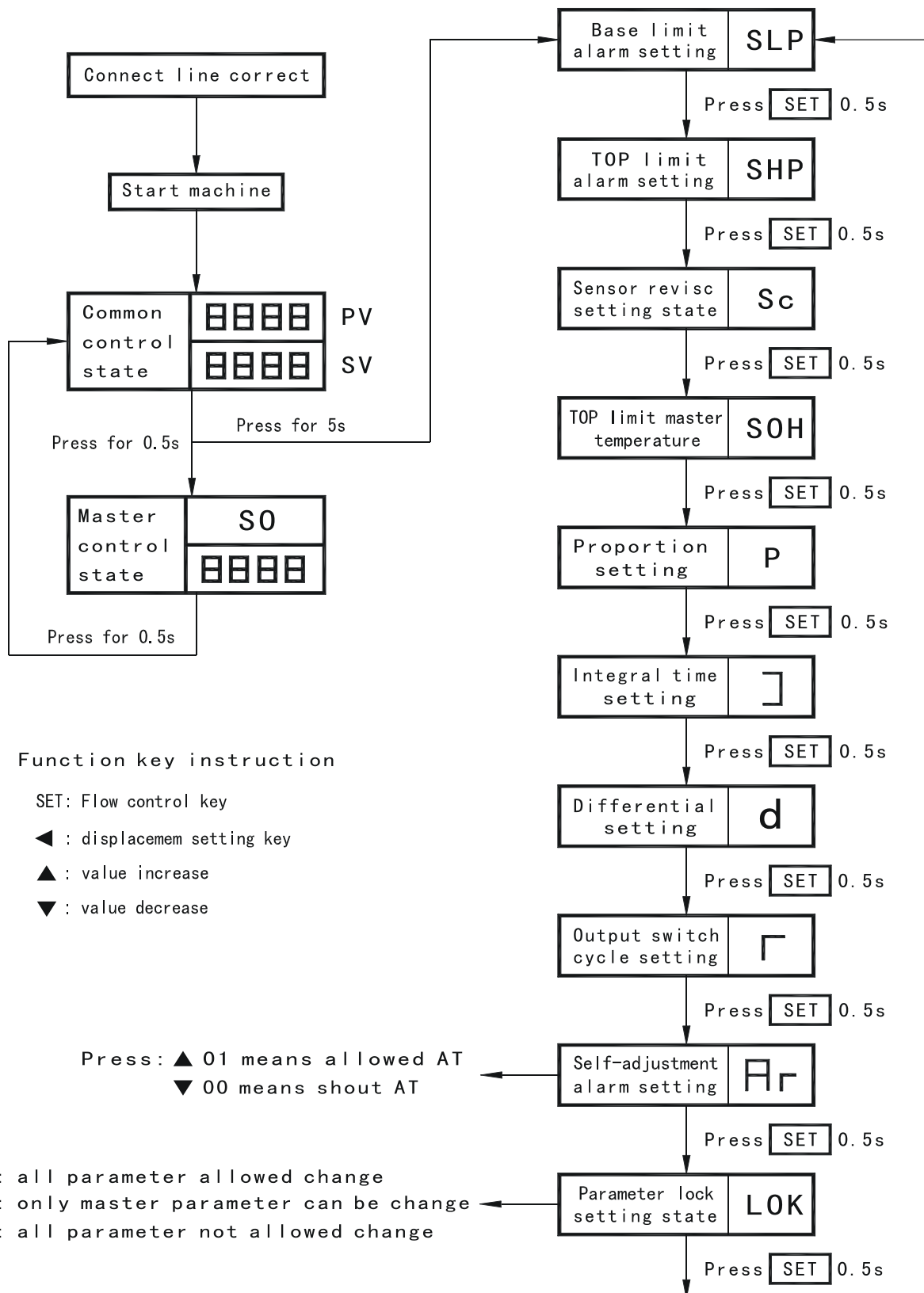
NOTE:

1. On the setting state, PV window display the setting value, SV window display the value you put in.

2. If you want to enter the second setting district from the common control state, you must press over 5s.

3. If user want to quit the second setting state to the common control state, there are two ways:

   (1) Press SET over 5s

   (2) Don't press any key over 30s, the system will quit to the common control state by itself.

      There are differences between the two methods. In the No.1way, the parameter user set and changed are effective.

      In the No.2way they are ineffective.

4. On the second setting district, when AT=1, press SET over 5s, the system will quit the second setting district and enter in

   self-adjustment state by itself, and the AT light twinkle.

5. On the self-adjustment state, press SET, the system will quit self-adjustment state, and enter setting state. If user wants

   to go back to self-adjust state, then set AT=1 and press SET over 5s.

6. If user wants to prevent others changing the parameter, then goes to the second setting district and sets the Lock value

   01 or 02.

CODE EXPLANATION IN OPERATION FLAW CHART

The follow codes will show one by one when you press; depending on different function some codes may miss in your instrument.

Code	Name	Range	Explanation	Setting value
1	Master setting	0-9999	Setting master value	106
2	Absolute base limit alarm setting	0-9999	Setting base limit alarm value	NULL
3	Deviation base limit alarm setting	0-9999	Setting different detector the top limit alarm value bellow the master setting value	NULL
4	Absolute top limit alarm setting	0-9999	Setting top limit alarm value	NULL
5	Deviation top limit alarm setting	-999-9999		018
6	Sensor revise setting	-200-200	Revise sensor deviation	000
7	Master temperature top limit setting	0-9999	Limit the master temperature adjustment maximum	NULL
8	Proportion range	1-999	Setting proportion: can be 0	023
9	Integral time	0-3600s	Setting integral time:0 means this function shut off	125
10	Differential time	0-3600s	Setting differential time:0 means this function shut off	011
11	Proportion cycle	1-99s	Setting output button cycle, can not be 0	15
12	Self-adjustment	00:stop 01:start	Setting self-adjustment start/stop	00
13	Setting lock	00:no lock 01:lock except master 02:lock all	Setting parameter allow/not allow revise	01

KC Printing Machine (Group) Limited 24-26

Website: Http://www.dg-padprinter.com
Online contact **Skype: yingsuhuakelven** QQ: 726986799
Email:cjscbsf@126.com   13592766499@VIP.163.com

ABOUT SELF-ADJUST

1. Why use self-adjust

    Most of strict temperature-control situation adopt PID. Different object have different suitable P (proportion), I (differential time), D (integral time).The traditional PID instrument is controlled by experienced PID professor to set up the above mentioned parameter; otherwise it may make mismatch and the system will run out of control. It brings problems to users. But this series of device has the function of self-adjust. When to start this function, it can adjust by itself depending on different object and situation to get the most suitable parameter.

2. How to use self-adjust

    (1).Press Set key, come into the second setting area and enter self-adjust situation according to operation flaw. Set "AT" to "01", then press Set key for 5second.Then the instrument come into self-adjust situation. Now the light of "AT" twinkles. At the nearby of the setting point after setting for three cycles the self-adjust is over, then the "AT" light puts out. The parameter is saved in the instrument by itself.

    (2).If you want to check the PID parameter, you can do it in the second setting area.

    (3).During self-adjust, the power supply must be constantly, otherwise restarts the device to set up.

    (4).If you start the self-adjust at the beginning of the rising temperature, the adjusted point, the two parameters may be different in this two situation. In common situation we choose the second.

    (5).When there are too many disturbing situation, User can start self-adjust several times to make sure the rationality.

INSTRUMENT TECHNICAL INDEX

- ✓ Measure tolerance:1% ±1、 0.5%±1、 0.2%±1three grades

    Cool compensate tolerance: in 0~50℃,≤±2℃,

    temperature coefficient≤0.05%/℃

- ✓ Display range: -1999~9999、-199~9999 two kinds
- ✓ Alarming range: setting free
- ✓ Replay output contact volume: 3A/220V,impede or appoint
- ✓ Contact sign:5V/40μS or 100mA,on contact 1A.
- ✓ Sign of solid-state relay:15±3V/30mA.
- ✓ Power supply: 220V~±10%50Hz   consumption: 4w
- ✓ Environment: 0~50℃ relative humidity: 35%~85%RH

    ★ *No corrosion and no strong electromagnetic radiation*

Pay attention

- ✓ Check the instrument division standards and the voltage to make sure whether it is you ordered.
- ✓ Connect line diagram correct.
- ✓ Use some material compensate wire for hot galvanic coupling input signal.
- ✓ Use the same standards low impede for the hot resistance input line, or try to make the three wires at the same length.
- ✓ Don't confuse the power input line with the sensor signal input line, or the instrument may be burnout which can't be

repaired. The outputting terminal can't be short circuit by strong current.

- ✓ Separating instrument wires, signal wires from strong current transfer wires to reduce the influence of electromagnetic radiation. If it is inevitable, please use screened wires.
- ✓ Mark out the followings when order
  (1) type of instrument
  (2) sensor division
  (3) instrument output type
  (4) temperature measure range
  (5) other special technical, function requirement

⬇ Maintenance

- ✓ Connecting the relevant power line, sensor line and output controlling line according to the device specification, start up the device and enter the automatic temperature controlling state. PV is the measured value, SV is the setting value.
- ✓ If you think the instrument is out of control, please check sensor and the line connect.
- ✓ If all display and output instruction are normal but the instrument is out of control, please check the output control wire; whether there is short circuit 、 breaking or wrong connect leads the internal component of instrument broken. User can cut power and open the instrument to check whether the output terminal clutch gold and the output protect resistance have been burnout.

⬇ Reference for RKC temperature controller adjustment

- ✓ Before start printing please make sure the oven have reach the temperature you required, it needs about 10 minutes for the oven to reach.
- ✓ Adjust sensitivity of temperature control
  a. Proportion P: in working the number in red over a lot to the green one, you can raise P reasonable, but if P is too big, it may cause the over can't reach the setting number (hereafter this phenomenon called overshoot). Decrease the number P can reach the setting number fast, but it may cause control value lower than setting value.
  b. Integral time 〕 : when it happens slow shock wave or overshoot repeatedly, that because integral too strong, you should increase 〕 or P.
  c. Different time d: shock wave may d increase and react of controller go fast, you should decrease d.
  d. Sensor revise setting state Sc: when the initial number (red) has great difference to the real oven temperature, you can reset the Sc.
     For example: lower than the room TEP. X ℃--------change the Sc to - X ℃-
     Higher than the room TEP. X ℃--------change the Sc to +X ℃
  e. Before you reset the number of above please set Lock as 01(press SET key over than 5 seconds, then find the Lock.
3. When the machine leaves the factory, all parameter has been set up for customer, please do not change it.