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第一章 序言

Chapter I Preface

热转印印花设备,是采用导热油层周边电加热发热导流,升温快,筒体表面温度均衡稳定,并采用四轴联动,毯带脱离等合理的机械结构,配用三项变频调速装置,使整机操作简单,维修方便,转印效果达到最佳,广泛适用于国内外数码印花行业.

Hot transfer printing equipment is adopted electric heating diversion around oil layer, fast temperature rising, stable temperature on cylinder surface, four shafts interlock, blanket disengaging mechanical structure, three frequency conversion adjustable device, easily operation and service, best printing effect, widely used in digital printing industry both domestic and international

1.1 注意事项 Attention

A 本说明书提供给客户安装调试,参数设定,故障诊断及操作使用的有关注意事项,务请妥善保管.

This manual offers installation, debugging, parameter set, trouble-shooting, operation and attention. Please take care of this manual.

B 在安装调试使用前,请您仔细阅读本说明书,以免由于误操作而引起设备,甚至人身安全事故损失.

Read this manual carefully before installation and debugging to avoid damage and accident for mistake.

C 用户必须按照本机额定功率选配供电导线和安装专用漏电保护开关.

User must select matched lead for power supply according to rating power of this machine and install specially used leakage circuit breaker

D 开机前机器外表必须牢固单独接地,否则可能造成严重的人身伤害事故.

The outer of this machine must be earthing, or else, it will damage to human beings.

E 本机器必须安装在通风、光亮的场所.机器周围不得少于 1.5 米空间,垂直水平安装.

This machine must be equipped in ventilated, lightful environment at the vertical direction .At least; there is 1.5m space is around the machine.

F 工作中发生异常情况应立即停机检查.同时应把毯带脱离滚筒,并用风扇帮助散热冷却,防止损坏毯带.

Immediately stop running to check the machine if abnormal situation occurs. At the same time, the blanket should be out of cylinder, flow fan is helpful for cooling to avoid damage of blanket.

G 操作人员必须严格遵守机器各部位的禁令标志进行操作.

Operator must obey forbidden sign of all parts in this machine to operate.

H 因为是热工机械,所以在使用过程中,轴棍或发热体及大小轴承可能因热膨胀关系会发出一些响声,这是属于正常现象,不必惊慌。

As the equipment is heating machinery, there may be certain noises from the roller, heating body or big/small bearings during the operation process, which is the normal phenomenon and you may not worry about it;

I 机箱内的控制线路板上及变频器上,平常应保持清洁,不能有灰尘等金属导电物品掉入。转电器保护罩不得打开,小心触电。

The control circuit plate and the transducer inside the machine case shall be kept clean regularly with no dust or any other metal products fallen inside. Please do not open the protection cover to avoid electric shock;

J 如需更换发热体、减速机、导热油等,必须采用本公司专用型号,不得私自更改、更换。

The heating body, speed reducer and heat transfer oil etc of our company shall be used for any replacement and please do not replace or rectify the equipment without our permission.

K 发热筒体外表经过特殊处理不得用腐蚀性液体擦洗及有硬物进入划伤。

The external surfaces of heating tube are specially treated and do not use the corrosive liquid to clean it or put hard object inside to scratch the surfaces.

1.2 主要技术数据 Main technical data

型号:PD1700-377TC

Model: PD1700-377TC

供电方式: 三相四线

Method of power supply: Three-phase and four-line

输入电压:380V/220V

Input voltage: 380V/220V

频率: 50-60HZ

Frequency: 50-60HZ

额定功率: 14.5KW(其中电机为 0.75KW)

Rating power: 14.5KW (motor power is 0.75KW)

输入电流:38A

Input current: 38A

定时关机: 1-12 小时

Timing turn-off: 1-12 hours

毯带:1.73M(宽) \times 2.43M(周长)

Blanket: 1.73M(Width) \times 2.43M(Perimeter)

机身:2.27M(长) \times 0.68M(宽) \times 1.27M(高)

Machine: 2.27M(Length) \times 0.68M(Width) \times 1.27M(Height)

总重量:大约 650KG

Total weight: about 650KG

噪声:30QB

Noise: 30QB

以上参数以实际为准,如有局部变动,另行通知.

Above parameters should be changed with actual situation. Further Notice for change partly is offered.

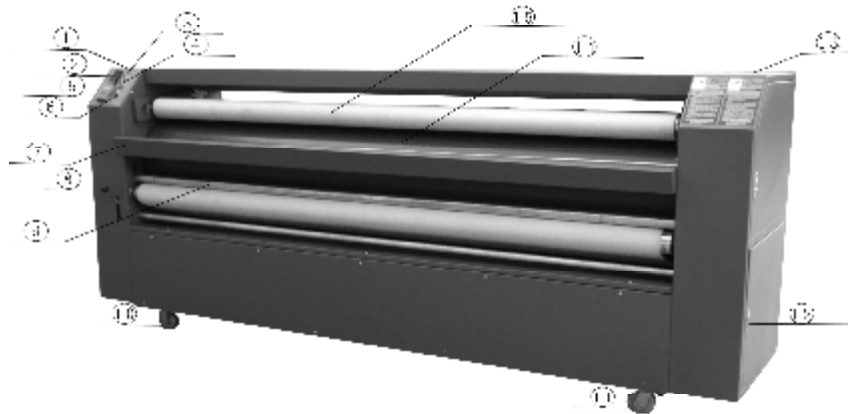
第二章 产品简介

Chapter III Brief introduction to product

2.1 型号命名 Model

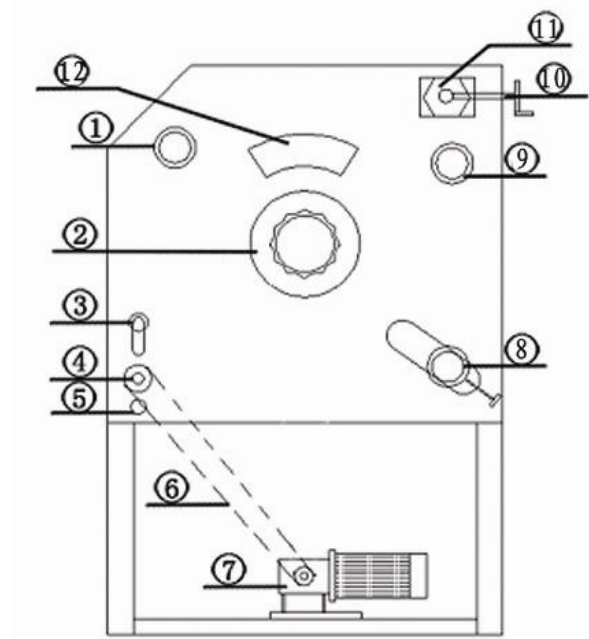
FTP is abbrev of Flat Transfer Printing

2.2 外观及各部件说明 Explanation to appearance and all parts



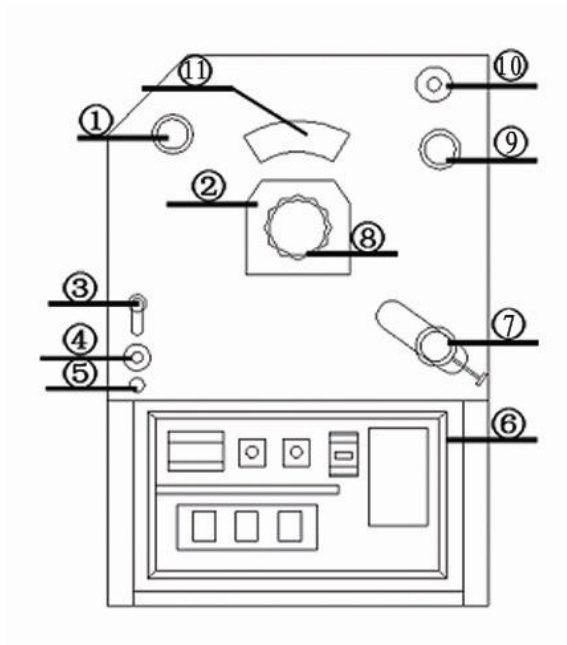
- (1)左机柜箱 Left box (2)温控仪 Temperature control device (3)总电源按钮 General power supply button (4)加温按钮 Heating button (5)变频控制器 Frequency conversion controller (6)变频启动按钮 Converter startup button (7)接纸槽 Paper feeding (put-in) groove (8)压布轴手柄 Hand knob for cloth fabric shaft (9)压布轴 Cloth fabric shaft (10)定向轮 Directional wheel (11)万向轮 Directional wheel (12)门钮 Door knob (13)右机柜箱 Right box (14)发热筒体 Heating tube body (15)毯带 Blanket

右机箱内部结构图 Configuration of inner right box



- (1)脱离轴 Separate shaft (2)加热筒体轴壳 Heating tube body shaft casing
 (3)压布轴 Pressing fabric shaft (4)平衡轴 Balance shaft
 (5)压布同步轴 Pressing fabric synchronizing shaft (6)链条 Chain
 (7)电机 Motor (8)调节轴 Adjustable shaft
 (9)平衡轴 Balance shaft
 (10)脱离手轮 Separate handwheel 一转动时可使毯带脱离滚筒或复位 The blanket may be separate tube body or reset while in rotation
 (11)脱离减速机 Separate reductor (12)检修孔 Overhaul manhole

左机箱内部结构机 Inner configuration of left box



- | | |
|---|--------------------------|
| (1)脱离轴 Separate shaft | (2)保护罩 Protection shaft |
| (3)压布轴 Pressing fabric Shaft | (4)平衡轴 Balance shaft |
| (5)压布同步轴 Pressing fabric synchronizing shaft | |
| (6)电器控制主板 Electric appliance control board | |
| (7)调节轴 Adjustable shaft | |
| (8)集电环（保护罩内）Yoke electric ring(in protection cover) | |
| (9)平衡轴 Balance shaft | |
| (10)脱离同步轴 Separate synchronizing shaft | (11)检修孔 Overhaul manhole |

第三章 安装与接线

3. Installation and connecting wire

3.1 安装 Installation

A 开箱后请检查主机上各个部位螺丝是否松动,如有请及时拧紧.

Check that all screws in mainframe are loose or not, tighten if loose.

B 整机应被量在有足够承受力的水平面上,最好用木头式支架使机器轮子架空,并呈水平状.

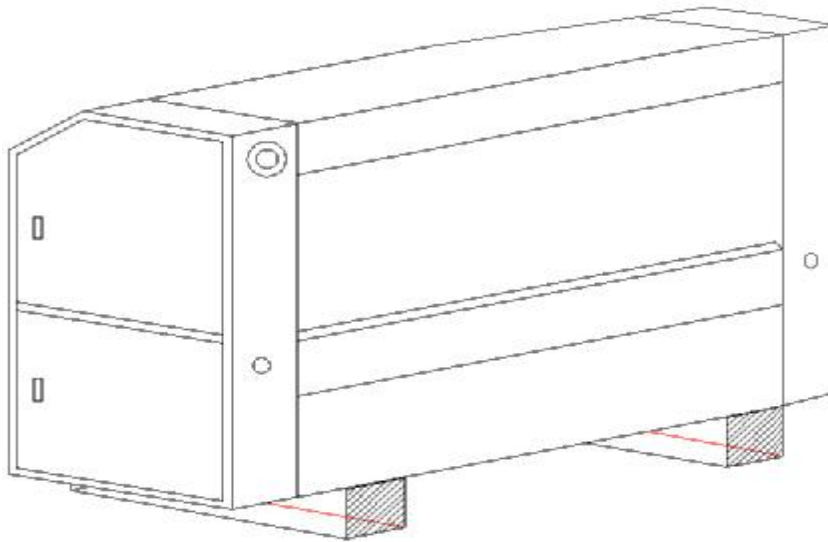
The whole machine should be set at level with enough capacity; wood frame to overhead the sliding wheel and level direction is preferred.

C 本机应在通风、干燥、无腐蚀性气体的环境中使用,设备周围切勿放置易燃、易爆物品.

This machine is used at environment of ventilating, dry, noncorrosive gas and no inflammable and explosive material around the equipment.

D 本机必须单独配装漏电保护开关,选用 $3\times 6\times 6+1\times 4\times 4$ 国标电源线供电,机器外壳必须单独牢固接地.

Matched load leakage circuit breaker separately on this machine with $3\times 6\times 6+1\times 4\times 4$ international power wire. The crust of machine must be earthing separately.



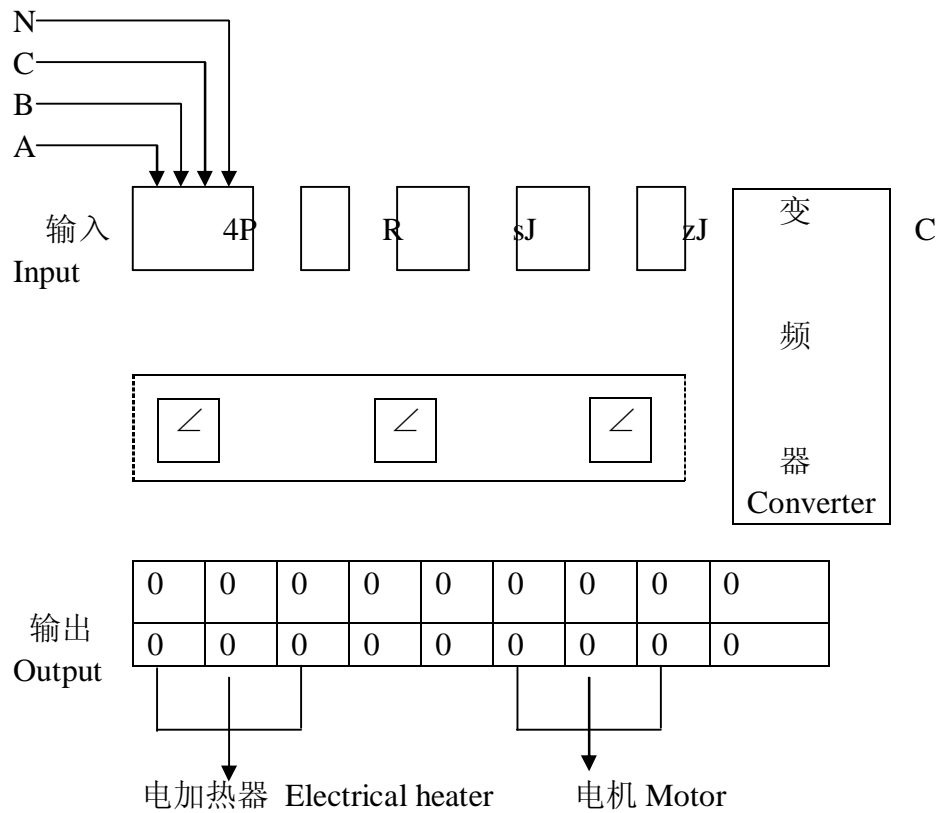
E 安装时,应保持设备水平,不可倾斜,具体实施办法用两段 $160\times 160\times 700$ (长)的枕木垫于机器两段轮子内侧,用水平仪检测机器是否水平,同样,工作平台安装时,高度应同进料处毯带高度一致,台面必须水平,且放纸、放布轴应平行于加热筒体.

Keep the equipment in level while installation. Use two section $160\times 160\times 700$ (length) of bed timber under inner side of two wheel. Use level instrument to check if the machine is level or not. When the working table is installed, the height must be consistent with feeding blanket and level. The paper feeding (put in) shaft and cloth feeding (put in) shaft must be of the same level with heating tank.

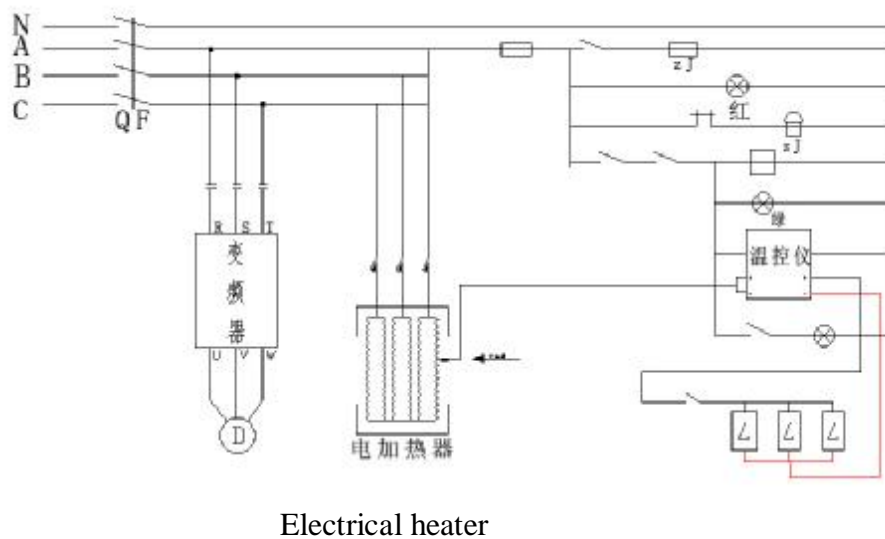
3.2 接线 Connection wire

电气控制主板方框图

Block diagram of electric control main board



3.3 电气控制原理图 Electrical control schematic figure



第四章 操作与控制

Chapter IV Operation and control

4.1 机械部分一般操作 Normal operation of mechanical part

开机前检查一下机械传动部分是否正常,然后抬起进料压棍 ,调正好毯带张力,待温度适合您的工作温度时即可开始工作.

Check if mechanical drive part is normal or not before working and then lift feeding pressure beam to adjust the tension force of blanket. Start to work till qualified temperature.

a 确认机体良好接地和电源接线无误后,推上机箱内断路器,然后,按下“总电源”按钮,再按下变频控制面板上“运行”键,把频率调在适当位置上。

After confirming the good earthing and correct power wiring of the system, set the breaker inside the case at on position, then press the button for “general power”, then press the “VFC (Variable Frequency Control)Run” key on the VFC (Variable Frequency Control)panel and adjust the frequency to the suitable position;

b 按下“加温”键,设定好所需温度,此数据靠客户根据不同的面料成分而定。我厂建议,客户在到达设定温度时先用小块面料和转印纸转印。如温度过高和过低,可作出相应调整,以保证大幅转印品的质量。

Press “heating” key to set the required temperature; which shall be decided according to different fabrics of the customer. We propose that the user shall make trial use by small size fabric and transfer paper when reaching the specified temperature and make corresponding adjustment in case of over high or over low temperature to ensure the quality of final product;

c 在工作台的放布架和放纸架上放好面料和转印纸,温度达到转印效果时,把面料平服的拉至台板上,放下压棍,使之进入滚筒内。注意,转印纸有墨水的一面对着面料,且在面料上面。

Put the fabrics and transfer paper on the fabric holder and paper holder on the working table; when the temperature reaches the level for transfer printing, put the fabrics on the table and lower down the press roller and let the fabrics enter

the roller. Note: the side of the transfer paper with ink shall face the fabrics and shall be placed over the fabrics;

d 在转印过程中，客户可根据转印出的图案深浅来调整温度上升或降低，也可调整筒体的速度来控制。

During the transfer printing process, the user may adjust the temperature in accordance with the color of the printed pattern, or adjust the temperature by controlling the speed of the tube.

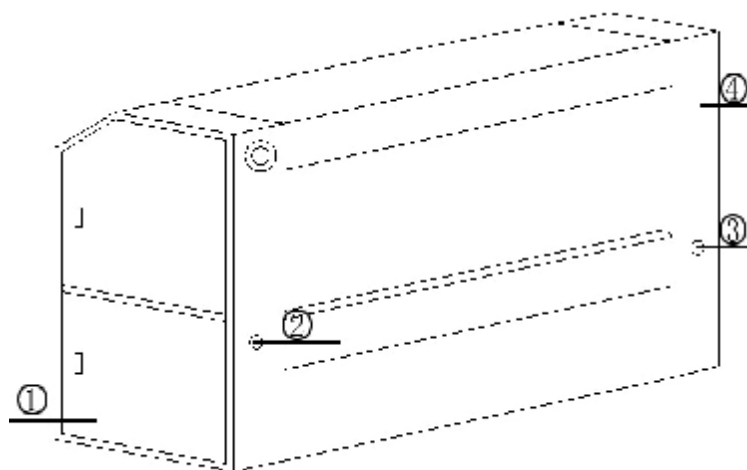
e 转印工作结束后，关掉“加温”键，并转动手轮把毯带脱离滚筒，本机停止加温，当温度下降到 80℃时可以关掉主机。

Upon completion of the printing work, press "cooling down" key and turn the hand wheel to remove the belt from roller; and the heating is stopped, when the temperature decreases to 80℃, the equipment will be automatically stopped.

f 特殊情况下，可以同时关掉“总电源”和“加温”按钮，当主机运行到一定时间后会自动停机，正常使用下不建议使用该功能。

On special occasions , Can turn off the "total power" and the " heating" button, When host run after a given period to automatically shutdown, on normal occasions, don' t recommend the use of this feature

g 毯带调节 Adjustment of blanket



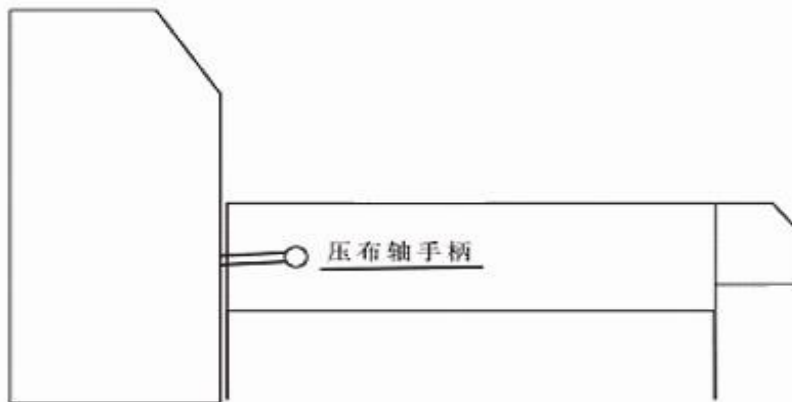
①动力柜 Power cabinet ②调节孔 A Adjustable core A ③调节孔 B Adjustable core B ④电控柜 Electric control cabinet

由于受水平和引力的影响，印花机的毯带有可能左右偏移，因此机器上设置了偏移调节孔，具体操作如下：

For the affection of level and attraction force, the blanket in printing machine will be drifting. The drifting adjustable core in this machine can be used as followings:

如果毯带往右偏移（指动力柜一端），就用配备的 T 型内六角扳手插入调节孔 A 内的螺丝尾孔中逆时针方向旋转，注意：调节时根据毯带的实时偏移情况，逐次调节，不能一次旋转很多圈，这样反而调不好的要慢慢调整，而且毯带调节过程不是一两分钟就可调好的。反之，各毯带 往左偏移（指电控柜一端），如上用 T 型扳手插入调节孔 B 中，逆时针旋转。

If the blanket drifts to right(to power cabinet),insert T type hex key wrench-set into screw thread uropore in adjustable core A and then revolve at the direction of anti-clockwise ,otherwise, if drift to left(to electric control cabinet, adjustable core B at the direction of anti-clockwise .Note: this process is slow and patient.



h 压轴的使用 Usage of fabric shaft:

为了进料方便，机器上配备了压布轴，具体操作如下：

In order to material feeding easily, cloth-fabric shaft is equipped in this machine as follows:

用手把布料和纸张平整的放在绿色压辊下，注意：布料和纸张必须垂直于大滚筒，用手使劲抬起电控柜上的压布手柄，使绿色胶辊重重压于布料上，并把它送入机器内，当滚筒和毛毯已死死咬住布了料时，应用手往下压手柄使压布胶辊停留在空中。注意：布料进入大筒内一定要把压布胶辊抬起，否则会使布料打皱。

Use hand to flare-out fabric and paper under the green pressure rod . Attention: cloth and paper must be vertical to big rotary drum. Use hand to lift the pressing fabric handle on electric control cabinet and then press on fabric by green rod into machine. When rotary rod and blanket have seized cloth, use hand to low the handle to make pressure beam hold on at air. Note: lift the cloth fabric beam when cloth enter into big cylinder, or the cloth will be crimple.

4.2 控制面板操作键功能说明:Function illumination of operating key in control panel

参照温控仪盘面画图

See the picture of VFC (Variable Frequency Control) panel



- ① 温度控制仪,客户按照该仪器操作说明书操作.(随机提供)
Temperature control device. Client operates according to instruction of this device.
(Offered with the machine)
- ② 交流电机变频调进控制器,客户按该变频器操作说明操作(随机提供)
AC motor frequency conversion controller. Client operate according to instruction manual of VFC (Variable Frequency Control) . (Offered with machine)
- ③ 红色闭锁按钮,按一下开(红灯亮)、再按一下关(红灯灭),该钮为本机二次控制电源总开关,同时作为急停开关,如工作完毕、客户必须拉开本机供电总闸。
Red color interlock button, press once to open (red lamp is light), press once again to close(red lamp is off). This button is general switch of quadratic control power supply and also used as rapid stop switch. If work is done, client must cut off general power supply brake.
- ④ 绿色闭锁按钮,按一下开(绿灯亮)、再按一下关(绿灯灭),该钮控制本机加温系统。
Green color interlock button, press once to open(green lamp is light), press once again to close(green lamp is off).This button is used to control heating system.
- ⑤ 绿色闭锁按钮,按一下开(绿灯亮)、再按一下关(绿灯灭).该钮控制本机变频器的电源供给客户在按下该钮后变频器开始运行,变频控制盘面显示原始工作状态,客户可根据需要进行盘面操作。
This button is used to control converter of power supply, press this button and the converter works. The display of converter control panel is original working state. The panel can be set according to the need of client.

第五章 常见故障排除与维护

Chapter V Elimination of Frequent Malfunction and maintenance

5.1 常见故障排除对策 Elimination method of Frequent Malfunction

故障现象 Phenomenon	故障原因 Cause	排除对策 Elimination method
温度加不上或加温缓慢 The temperature can not be higher or heating slowly	① 电源进线过小、电压压降大 Too small of inlet for power supply and too big of voltage pressure drop	更换电源进线线径 Replace the path of inlet in power supply
	② 缺相或线接头松动 Lack of phase or loose of connections	检查线路三相输出电压、拧紧线桩头螺丝 Check three-phase output voltage and tighten screw
	③ 发热体电热管损坏 Damage of tubular electric heating element in heating unit	更换发热体电热管 Replace the tubular electric heating element in heating unit
	④ 温控仪失控或损坏 Out of control or damage in temperature device	检查更换温控仪 Check and replace temperature control device
	⑤ 固态继电器损坏 Damage of solid relay	检查更换固态继电器 Check and replace solid relay.
温度失控 The temperature is out of control	固态继电器击穿 Breakdown of solid relay	更换 Replace
	温控仪失控 The temperature control device is out of control	更换 Replace
毯带筒体不转 Blanket is too loose	① 毯带太松 Blanket is too loose	调正压力 Adjust the pressure
	② 轴承卡死 The bearing is jammed	检查更换轴承 Check and replace bearing
	② 电机或减速机故障 Failure of motor or reductor	检查更换 Check and replace
	④ 变频器故障或按错键、改变指令 Failure of converter or key is pressed to wrong or the command is changed.	更换变频器 参照变频器说明、修改指令 Replace converter according to construction of converter and revise command.
轴承有响声 Noise of bearing	属于正常的热膨胀因素 如有特别噪声 Belong to normal heat expansion, such as abnormal noise	检查更换 Check and replace

注:检修排除故障必须具备专业知识的技术人员.如确不能排除,请及时与生产厂家联系.

Note: Only the technical personal with professional knowledge can deal with this failure. Please contact with manufacturer immediately if these failure can not be eliminated

5.2 日常维护 Daily maintenance

①定期检查机内积尘,并及时清理,保持各部件清洁

Check dust in machine and clean all part to keep clean.

②定期检查减速机及链条链轮是否正常,如发现异常情况及时处理.

Check if reductor and chain are normal or not, immediately deal with it if abnormal.

③ 定期检查电线连接桩头,发现松动或烧焦现象应及时处理.

Check the connection, deal with movement and burning.

④ 定期清除变频器散热器及外壳的结尖.

Clear off converter, radiator and outer shell.

⑤ 定期检查电机风罩周围是否有杂物堆积,如有应及时清除保证电机散热.

Check if there are any other things around the fan. Clear them off to keep radiating of motor.