



JINAN LIJIANG AUTOMATION EQUIPMENT CO.,LTD.  
 ADD: No.10,Hehai Industrial Park,Meilibei Road,Jinan,China  
 TEL:+86-531-85960498 FAX:+86-531-87562846

## 密封胶线培训确认单

### Training Confirmation Listing of Automatic Insulating Glass Sealing Robot Machine

#### 第一部分 Section 1: 安装与调试 Installation&Debugging

培训内容 Training content: 安装与调试 Installation&Debugging	操作员签字 Signature of operator	主管签字 Signature of supervisor
1.拆包装并清点附件，应与装箱单相符 Unpack and inventory attachments, which should match the packing list		
2.将进料传送段、出料段、折叠部分翻起，装上拉杆和紧固螺栓，用铝型材靠紧上下平面，调节拉杆，使上下两部分在一个平面上 The feed conveying section, the discharging section, and the folded section are turned upside-down, the tie bar and the fastening bolt are mounted, and the aluminum profile is used to press the upper and lower planes, and the pull bar is adjusted so that the upper and lower parts are on one plane		
3.将进料段放置生产线末端距离小于 10mm，装上调平垫块，将出料段放置在入料段后面距离 260-300mm。密封胶线末端最少预留 1.5-2.5 米(单胶 1.5m 双胶 2.5 米的距离放置 A 胶供胶系统)Place the feed section at the end of the production line at a distance of less than 10 mm, install a leveling pad, and place the discharge section at a distance of 260-300 mm behind the feeding section. At the end of the rubber seal line, a minimum of 1.5-2.5 meters is reserved (A plastic glue supply system is placed at a distance of 2.5m from a single plastic 1.5m glue.)		

<p>4.安装打胶立柱，将立柱固定在出料段上，调平立柱使立柱垂直平行于出料段。Install the glue column, fix the column on the discharge section, level the column so that the column is parallel to the discharge section</p>		
<p>5.将各段的信号线和电源线装到电箱内，要紧固；装上外接电源，注意电源线<math>\geq 10\text{mm}^2</math>的5芯铜线，总电源开关禁止使用漏电保护器，必须接好接地线，建议使用<math>\geq 50\text{A}</math>的空气开关；根据液压站电机转向调整相线。Put the signal wires and power cords of each section into the electric box and fasten it; install an external power supply, pay attention to the 5-core copper wire with the power cord <math>\geq 10\text{mm}^2</math>, disable the leakage protector for the main power switch, and connect the grounding wire. It is recommended to use <math>\geq 50\text{A}</math> air switch; according to the hydraulic station motor steering phase adjustment</p>		
<p>6.安装气路，按照气管标记接好气管。将外接气源接好，接通气源，气源最低压力<math>\geq 0.6\text{MPa}</math>，供胶系统用<math>\phi 12\text{X}8\text{mm}</math>的气管接到主气管上，其他两个系统用<math>\phi 10\text{X}6.5\text{mm}</math>的气管 Install the airway and connect the trachea with the trachea mark. Connect the external air source, connect the gas source, the lowest pressure of the gas source is <math>\geq 0.6\text{MPa}</math>, the glue supply system is connected to the main air pipe with <math>\phi 12\text{X}8\text{mm}</math> air pipe, the other two systems use <math>\phi 10\text{X}6.5\text{mm}</math> air pipe</p>		
<p>7.通电检查线路及各感应开关是否灵敏、气路是否正确。调整V型带位置，使其与中空玻璃厚度相等。将中空玻璃放置在进料段与出料段观察玻璃是否完全贴紧背靠论，如未贴紧需要调整V型带位置使比例贴紧，将触摸屏V型带位置实际值改为中空玻璃厚度值。Check if the line and each sensor switch are sensitive and the gas path is correct. Adjust the V-belt position so that it is equal to the thickness of the insulating glass. The insulating glass is placed in the feeding section and the discharging section to observe whether the glass is completely in close contact with the backrest. If not, the position of the V-belt is adjusted so that the proportion is tight, and the actual value of the V-belt of the touch screen is changed to the thickness of the insulating glass. value</p>		
<p>8.将两片中空玻璃分别放在生产线末端和进料段前端，调节调平螺栓和前后距离，使两片玻璃的对缝上下对齐、下边缘对齐；将1片玻璃放在进料末端，调节末端前后位置使其与生产线完全在一条线上面【使用铝型材平尺调整】，使用水平仪调整高度与生产线高度一致。按以上步骤多次反复调整，使进料段与生产线输出段传送轮（带）在一个直线上，侧面在一个平面上。Place two pieces of insulating glass at the end of the production line and the front of the feed section respectively, adjust the leveling bolts and the front-rear distance so that the two glass pairs are aligned with the upper and lower edges and the lower edges are aligned; place one glass on the feeding end and adjust the end The front and rear</p>		

<p>positions make it completely on the line with the production line [Adjust with aluminum flat bar], and use the spirit level to adjust the height to be consistent with the height of the production line. Repeat the adjustment several times according to the above steps so that the feed section and the output section of the production line (belt) are on a straight line and the side is on a flat surface.</p>		
<p>9.将中空玻璃分别放置进料段与出料段重复 7 步骤是进料段与出料段 V 型带高度一致，侧面在同一平面上。The step of placing the hollow glass into the feeding section and the discharging section respectively is 7 steps. The height of the V-belt in the feeding section and the discharging section is the same, and the sides are on the same plane.</p>		
<p>10.安装吸盘辅助系统，使其平行于进料段与出料段，保证前后高度一致。Install the sucker assist system so that it is parallel to the feed section and the discharge section to ensure consistent front and rear heights.</p>		
<p>11.安装供胶系统，将供胶系统放置在出料段末端偏后，按位置接好胶管。油箱加 46 号抗磨液压油至油标 2/3 处 Install the glue supply system, place the glue supply system at the end of the discharge section, and connect the hoses according to their positions. Fuel tank plus No. 46 anti-wear hydraulic oil to oil mark 2/3</p>		
<p>12.连接 A、B 组份胶管至混合器； Connect the A and B components hoses to the mixer;</p>		
<p>13.打开供胶系统气源，调节主泵气压为 0.2—0.4MPa，辅料泵气压 0.3—0.5MPa，升降气压 0.3—0.6MPa；打开 A、B 泵压盘放气阀，压入胶桶，待放气阀出胶后关闭。Open the air supply system for the glue, adjust the main pump pressure to 0.2-0.4MPa, the auxiliary pump pressure 0.3-0.5MPa, lift the air pressure 0.3-0.6MPa; open the A, B pump pressure plate air release valve, press into the plastic barrel, wait until After the valve is closed, it closes</p>		
<p>14.工作模式旋钮选择手动，进入‘手动操作’画面，依次点击各手动操作按钮，测试各功能键动作是否正常，各伺服轴回原点 Select the manual mode mode, enter the ‘manual operation’ screen, click each manual operation button in turn, test whether the function keys are normal, and return the servo axes to the origin.</p>		
<p>15.进入“编辑功能”，打开“空运行”“暂停”“不使用扫描仪”玻璃四边“不出胶”Go to "Edit function", open the "run empty", "pause", "do not use the scanner" glass four sides "not glue"</p>		
<p>16.将玻璃放在入料段，工作状态‘自动’。按“启动”按钮，待指示灯亮起后踩“脚踏开关”设备自动运行，观察各边定位情况，根据实际情况调整“机械参数”里面对应参数值，直至定位合理为止（合理位置为靠紧玻璃后用手拉动胶嘴距离玻璃 3-5 毫米）。The glass is placed in the feeding section, and the working state is 'automatic' by pressing the "start" button. After the indicator lamp lights up, the "foot switch" device is automatically operated to observe the positioning of each</p>		

side, and the corresponding "mechanical parameters" are adjusted according to the actual situation. The value of the parameter is until the positioning is reasonable (a reasonable position is to move the nozzle 3-5 mm away from the glass after pulling the glass).		
17.参数调整完毕后进入“编辑功能”，关闭“空运行”“暂停”“不使用扫描仪”，玻璃四边“出胶”状态 After the parameters are adjusted, enter the "Edit function", close the "empty operation", "pause", "do not use the scanner", and the glass is "out of glue" on all four sides.		
18.进入主画面点击“手动补胶”待变绿后点击“手动排胶”直至混合好的黑胶排出。Go to the main screen and click "Manual Glue" until it turns green. Click "Manual Rubber Glue" until the mixed black glue is discharged.		
19.开始试打胶，将玻璃放在入料段，自动状态下踩脚踏开关，根据各边出胶效果调整“编辑功能”内各边角参数直至最佳为准。Begin to test the glue, place the glass in the feeding section, and press the foot switch in the automatic state, and adjust the parameters in each corner of the “editing function” according to the plastic effect of each side until the best one prevails.		
20.各选配功能调整，在触摸屏内选择客户要求的选配功能进行调试，修改对应参数。Each optional function is adjusted, and the optional function required by the customer is selected in the touch screen for debugging and the corresponding parameter is modified.		
21.所有参数调整完毕后进行正常封胶作业，设备稳定后进行客户培训。After the adjustment of all parameters, the normal sealing operation is performed. After the equipment is stable, the customer training is performed.		
<p>22. 开机步骤 turn-on step:</p> <p>(1)打开电源开关，先打开操作面板上的急停开关在打开电源开关，系统进入开机界面 Turn on the power switch and first open the emergency stop switch on the operation panel. Turn on the power switch and the system will enter the boot interface.</p> <p>(2) 在主画面中，依次点击，机头旋转，机头上下、辅助吸盘，胶头前后等回原点，胶头伸缩定位在伸缩寻参后。（点击寻参前先确定胶头升降与吸盘不会相撞，如有相撞的可能请分别寻参。）</p> <p>选择手动排胶，至出黑色混合胶。（供胶系统的各个阀门要处于正确的位置）In the main screen, click, head rotation, head up and down, auxiliary suction cup, glue head back and forth, etc., and the rubber head is telescopically positioned after the telescopic search. (Click on the before the reference to determine the rubber head lift It will not collide with suction cups. If</p>		

<p>there is a possibility of colliding, please consult each other separately.)Select manual debinding to get a black blend. (The valves for the glue supply system must be in the correct position)</p> <p>(3) 根据实际情况输入“玻璃厚度，铝框厚度 According to the actual situation, enter "glass thickness, aluminum frame thickness</p> <p>(4) 根据工作情况选择是否联机，单机时将待加工的中空玻璃放入入料段，输入玻璃的厚度与长度。按踩脚踏开关可以正常封胶。联机时是于中空玻璃立式生产线联机使用，从生产线的出料段自动传送到封胶机的入料段。输入玻璃的厚度。 According to work conditions, whether to choose whether to connect online, put the hollow glass to be processed into the feeding section in a single machine, and input the thickness and length of the glass. Press the foot switch to seal it normally.</p> <p>When used online, it is used on-line in the hollow glass vertical production line and is automatically transferred from the discharge section of the production line to the feeding section of the sealer. Enter the thickness of the glass</p> <p>(5) 根据玻璃的胶深情况在打胶参数里适当调整各边的参数 According to the glue depth of the glass, adjust the parameters of each side in the gluing parameters.</p>		
<p>23.设备工作各个动作步骤 Equipment operation steps</p>		
<p>24.各个开关（含光电、限位）的作用 The function of each switch (including photoelectric, limit)</p>		
<p>25.显示屏内个参数的作用与意义 The function and significance of the parameters in the display</p>		
<p>26.混合器部分的清洗方法 Mixer section cleaning method</p>		
<p>27. 关机冲胶步骤 Steps for flushing out the mixed glue:</p> <p>生产结束，需要对机器混合器进行冲胶，冲出混合胶，只留白胶在混合器内，防止混合胶凝固在混合器内 At the end of production, it is necessary to punch the machine mixer, flush out the mixing glue, and leave only white glue in the mixer to prevent the mixing glue from freezing in the mixer.</p> <p>在机头下部放置接胶的容器，点击操作面板的“冲胶开始”按钮至黑胶全部冲出来 全是白胶时点击“冲胶结束”按钮 关闭电源即可"Place the glue container in the lower part of the machine head, click on the "Start button" button on the operation panel until the black glue is flushed out. When it is white glue, click the "Empty glue button" to turn off the power."</p>		

## 第二部分 Section 2: 故障的排除与保养 Troubleshooting&Maintenance

培训内容 Training content: 故障的排除与保养 Troubleshooting&Maintenance	操作员签字 Operator's signature	主管签字 Signature of supervisor
<p>1.混胶不均匀，出现花胶 Glue is not even , white and black glue mixed:</p> <p>① 黑胶、白胶压力是否平衡：如果压力差距过大容易造成此问题。白胶泵补胶气源压力为 0.4MPa。黑胶泵补胶气源压力为 0.3-0.5MPa(根据各个品牌的黑胶粘度不同适当调节) 1. Whether the pressure of black and white glue is balanced: If the pressure difference is too large, this problem may be caused. The pressure of the white glue pump is 0.4 MPa. Rubber pressure source for rubber pump is 0.3-0.5MPa (adjust according to different brands of black rubber viscosity)</p> <p>② 检查比例泵黑胶、白胶配比是否为 1:10 左右 Check whether the ratio of the proportioning pump black rubber and white glue is 1:10 or so</p> <p>③ 检查混合器安装是否正确、混合芯轴是否阻塞需要清理 Check whether the mixer is installed correctly, and if the mixing mandrel is obstructed, it needs to be cleaned</p> <p>④ 检查黑、白胶智能压力传感器是否正常，屏幕上显示的压力值是否正常 Check whether the black and white glue smart pressure sensor is normal and whether the pressure value displayed on the screen is normal</p> <p>⑤ 检查黑胶气动开关与电磁阀动作是否正常 Check whether the vinyl pneumatic switch and solenoid valve operate normally</p> <p>⑥ 6、检查气动开关阀连接固定块是否阻塞 check the pneumatic switch valve connection fixed block is blocked</p>		
<p>2. 正常打胶时不出胶 No glue out in the normal situation:</p> <p>① 检查机器气源是否在 0.6 至 0.7MPa 之间，工作时是否有较大的波动低于压力下限 Check whether the air supply of the machine is between 0.6 and 0.7 MPa. Whether there is a large fluctuation in the work is lower than the lower pressure limit</p> <p>② 检查触摸屏中编辑功能画面下的“空运行状态”按钮是否打开 Check whether the "empty running state" button under the editing function screen in the touch screen is turned on</p> <p>③ 手动检查扫描仪数值是否正常 3, manually check the scanner is normal</p>		

<p>④ 检查屏幕显示的上胶压是否正常,范围在 8-30MPa 之间 check the screen shows the glue pressure is normal, the range between 8-30MPa</p> <p>⑤ 检查黑胶、白胶胶泵是否启动,电磁阀动作是否正常。5. Check if the black and white glue pump is started and the solenoid valve is normal</p> <p>⑥ 检查液压站电机是否工作,换向阀,比例溢流阀是否正常工作,压力是否正常 6, check whether the hydraulic station motor work, valve, proportional overflow valve is working, the pressure is normal</p> <p>⑦ 检查气动开关阀是否打开,连接金属块是否阻塞 Check whether the pneumatic switch valve is open and whether the connecting metal block is blocked</p> <p>⑧ 检查出胶管路、接头、单向阀、混合器等是否有阻塞的地方 check out the plastic pipe, joints, check valves, mixers, etc. are blocked place</p> <p>⑨ 第一边不出胶,检查液压油缸下限位接近开关是否有信号,如没有信号第一边不出胶 The first side does not glue, check whether the lower limit of the hydraulic cylinder is close to the switch. If there is no signal, the first side will not be glued.</p>		
<p>3. 出胶不饱满或者过多等不均匀情况 Glue is not even c sealant fully or overfull:</p> <p>① 检查探测胶深的探测板有没有在铝条中间位置,如果四条边的位置不一致调整版面或者机头竖梁之间的匹配位置,使探测板在铝条在中间位置 Check if the detection probe is deep and the detection board is in the middle of the aluminum strip. If the positions of the four sides are not the same, adjust the matching position between the layout or vertical beam so that the detection board is in the middle of the aluminum strip.</p> <p>② 检查混合器是否有阻塞 单向阀 气动开关阀是不灵活,如有此问题需要拆开清洗 Check the mixer for obstruction Check valve The pneumatic switch valve is inflexible. If this problem occurs, it needs to be opened and cleaned.</p> <p>③ 打胶速度的设置是否与压力 胶深等匹配 whether the glue speed setting is matched with pressure glue depth</p> <p>④ 铝条的安放是否标准 不能 出现忽大忽小的情况 这样容易出现出胶忽多忽少的情况 Whether or not the aluminum strip is placed in the standard can not be changed suddenly and easily.</p> <p>⑤ 检查角部出胶参数设置是否准确 check the corner of the plastic parameters are set accurately</p>		
<p>4. 出胶速度比正常明显慢 The glue speed is obviously slower than normal: 混合器至胶头部分的出胶管路中有堵塞的地方 There is a blockage in the glue line from the mixer to the plastic head</p>		
<p>5. 碎角 corner broken:</p>		

<p>定位距离不准、靠紧压力不合适, 两片玻璃不等大, 未磨边 The positioning distance is not accurate, and the close pressure is not suitable. The two pieces of glass are not equal in size and are not edging.</p>		
<p>6. 吸盘不吸玻璃 Suction cup does not absorb glass:</p> <ul style="list-style-type: none"> <li>① 吸盘回位磁性开关是否有信号 If the suction cup return magnetic switch have a signal</li> <li>② 联机状态下玻璃长度计算是否准确 If the glass length calculation if accurate when online</li> </ul>		
<p>7. 第一条边, 玻璃靠紧后不动作 On the first side, the glass doesn't act after being pressed against it:</p> <ul style="list-style-type: none"> <li>① 检查抹胶板磁性开关是否有信号 Check if the magnetic switch of the plastering board has a signal</li> <li>② 补胶是否完成 Whether the glue is refilled</li> <li>③ 扫描仪检测胶深是否大于 0 If the depth of glue is actually bigger than 0 detected by the scanner</li> </ul>		
<p>8. 日常维护保养 Routine maintenance:</p> <ul style="list-style-type: none"> <li>① 定期清理开关阀否则会造成开关阀堵塞或阀芯断掉。建议 10 天清理一次 Periodically clean the switch valve or it will cause the switch valve to clog or the valve core to break. It is recommended to clean it once every 10 days</li> <li>② 定期检查微型继电器是否动作正常。如有损坏及时更换 Periodically check if the micro-relay is operating normally. Replace if damaged</li> <li>③ 水气滤气器每班放水一次, 每月清洗一次, 压力表调到 0.5~0.8Mpa, 油雾保证一定油位(N32 机械油)油量每分钟 2~3 滴/min 左右 The water vapor filter is used to discharge water once a month, once a month, and the pressure gauge is adjusted to 0.5 to 0.8 Mpa. The oil mist ensures that the oil level (N32 mechanical oil) is about 2 to 3 drops/min per minute</li> <li>④ 检查各机构组件气缸上紧固联接件,防止松动 Inspect the tight fittings on the cylinders of each mechanism component to prevent loosening.</li> <li>⑤ 保持机头各处干净整洁。5. Keep the machine head clean and tidy</li> <li>⑥ 电气箱内保持清洁干净, 严禁非专业人员打开, 严禁放置杂物及其他物品 Keep the inside of the electrical box clean, non-professionals are strictly forbidden to open, and it is forbidden to place sundries and other articles.</li> <li>⑦ 定期清理混合机构, 建议 10-15 天清理一次。将混合机构拆开使用煤油 (或汽油) 清洗 U 型混合器如果混合芯轴抽不出来可以使用木材烧烤后使用煤油 (或汽油) 清洗。直连混合器混合芯轴使用食用油炸 10-15 分钟, 待冷却后再用煤油清洗, 严禁使用火烧混合芯轴 Clean up the mixing facility on a regular basis and recommend cleaning it once every 10-15 days. Disassemble the mixing mechanism and use kerosene (or gasoline) to clean the U-shaped mixer. If the mixing mandrel cannot be</li> </ul>		



pulled out, use wood kerosene (or petrol) for cleaning after grilling. Mix the mandrel directly to the mixer and use the edible oil to fry for 10-15 minutes. After cooling, clean it with kerosene. It is forbidden to use the fire and mix mandrel

⑧ 9.定期向直线导轨滑块加注黄油。建议每周一次 Regularly fill the linear guide slider with butter. It is recommended once a week

⑨ .保持各光电开关干净整洁，胶嘴及抹胶机构灵活。每班必须检查 Keep the photoelectric switches clean and tidy, and the nozzles and wipers are flexible. Each class must be checked

⑩ 液压油自调试完毕后计时，第一次半年后更换，以后每年更换一次。建议使用 46 号耐磨液压油 The hydraulic oil is timed after the completion of the adjustment. It will be replaced after the first half year, and will be replaced once a year. It is recommended to use No. 46 wear-resistant hydraulic oil

LIJIANG  
GLASS