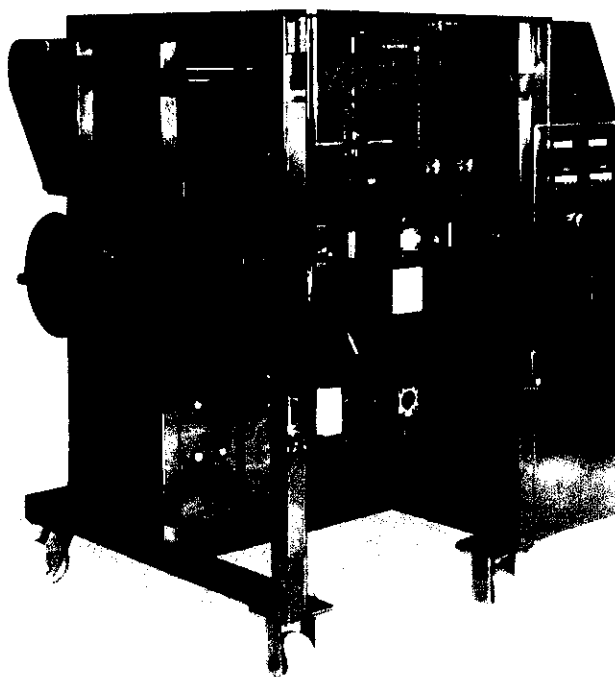


# **VERTEKJR.**

## **FORM, FILL & SEAL**



### **User Manual**

**Weighpack Systems Inc.**  
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# **Weighpack Systems Inc.**

**www.weighpack.com**

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## 1. Machine Description

The Vertek Junior Vertical form-fill and seal machine can produce up to 50 cycles per minute and can seal polyethylene and laminate films. This easy to operate bagger comes complete with stainless steel construction and PLC controls.

## 2. Features

- PLC based
- Touch screen controls
- Servo driven, powered film unwinding system
- Pneumatic vertical sealing bar
- Digital heater control
- Pneumatically operated horizontal sealing jaws
- Encoder unwind length control
- Large memory storage
- Safety guard and safety switch
- Stainless steel construction

## Warning:

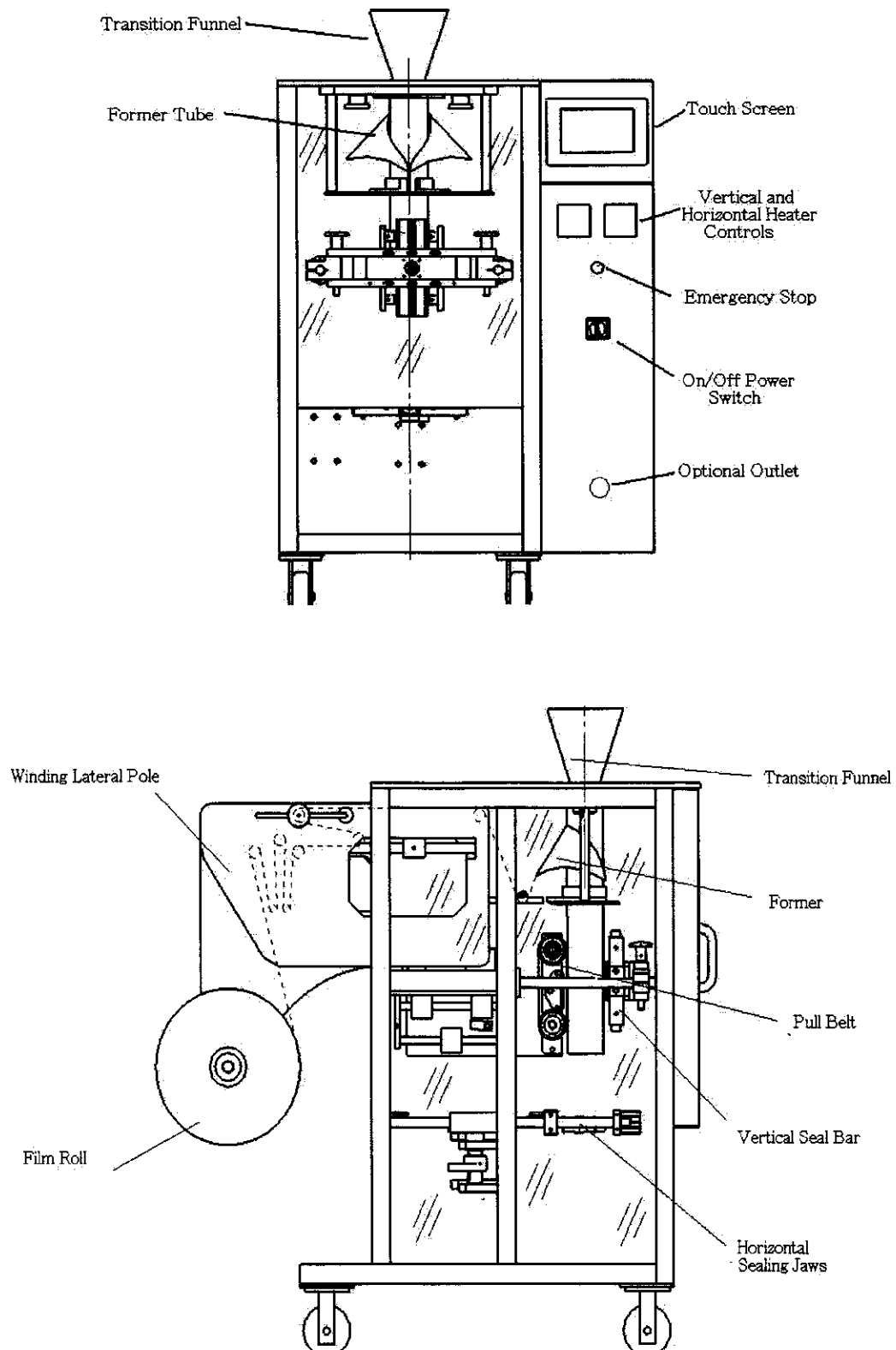
**This machine is not designed to be washed-down with a low or high pressure water hose. Do not expose to water. Failure to do so could result in severe machine damage. You should only clean the machine when it is turned off, and clean with a damp cloth. Failure to comply with these warnings will result in voiding your warranty and possible personal injury.**

## Start Up:

When you receive your new Junior Vertek please check the following areas prior to powering it up:

- Confirm the electrical requirements from your power supply.
- Ensure there are no visible signs of damage to the machine from shipping or mishandling.
- Plug- in air supply, ensure correct air requirements are observed.
- Check all fasteners and ensure they are tightened correctly.
- Install film as outlined in this manual.
- Ensure that there are no foreign objects on or in the machine.
- Power up the machine.
- Enter your settings.

### 3. Layout diagram



---

## 4. Specifications

|                           |  |
|---------------------------|--|
| <b>Speed:</b>             | up to 50 bags per min  |
| <b>Size of bag:</b>       | Width: 2" – 5-1/2" (50~150mm)<br>Length: 3" – 8" (80~200mm)  |
| <b>Power supply:</b>      | AC220V (±10%), 50-60HZ, 1 phase, 3KW                         |
| <b>Power consumption:</b> | 3 KW   |
| <b>Air pressure:</b>      | 60 to 85 PSI   |
| <b>Air Consumption:</b>   | 9 CFM (0.25m <sup>3</sup> /min)                              |
| <b>Nitrogen pressure:</b> | must be adjusted to 42 PSI - (3kg/ cm <sup>2</sup> )         |
| <b>Weight:</b>            | 350 lb (159kg)   |
| <b>Dimension:</b>         | 36" wide X 40" long X 40" high - 910(W) ×1000(L) ×1000(H) mm |

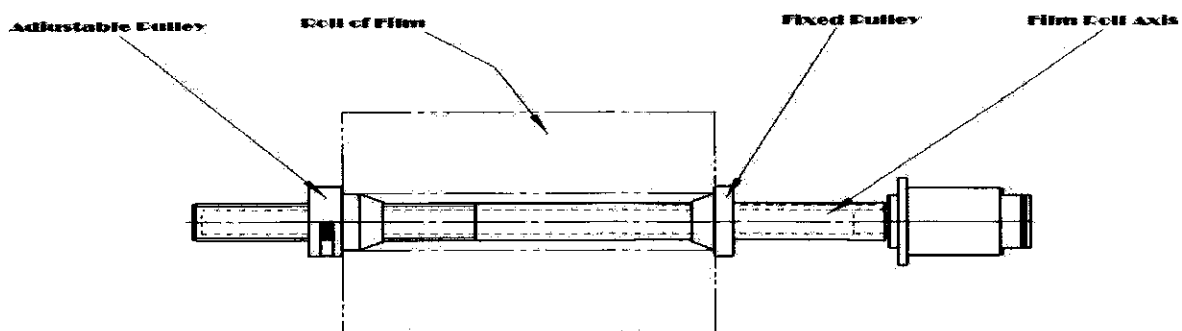
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## 5. Operation and adjustment

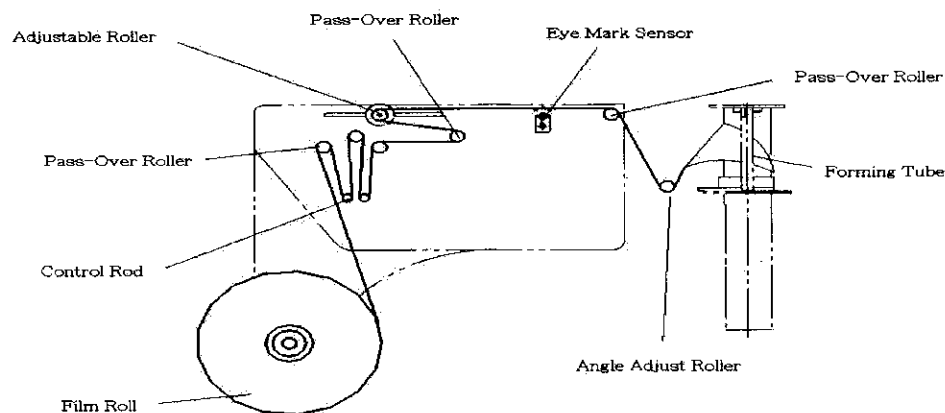
### 5.1 Film Loading

The film holder is driven by the film unwinding motor. It is used to hold and advance the film roll when the film belt pulls the film to make bags.

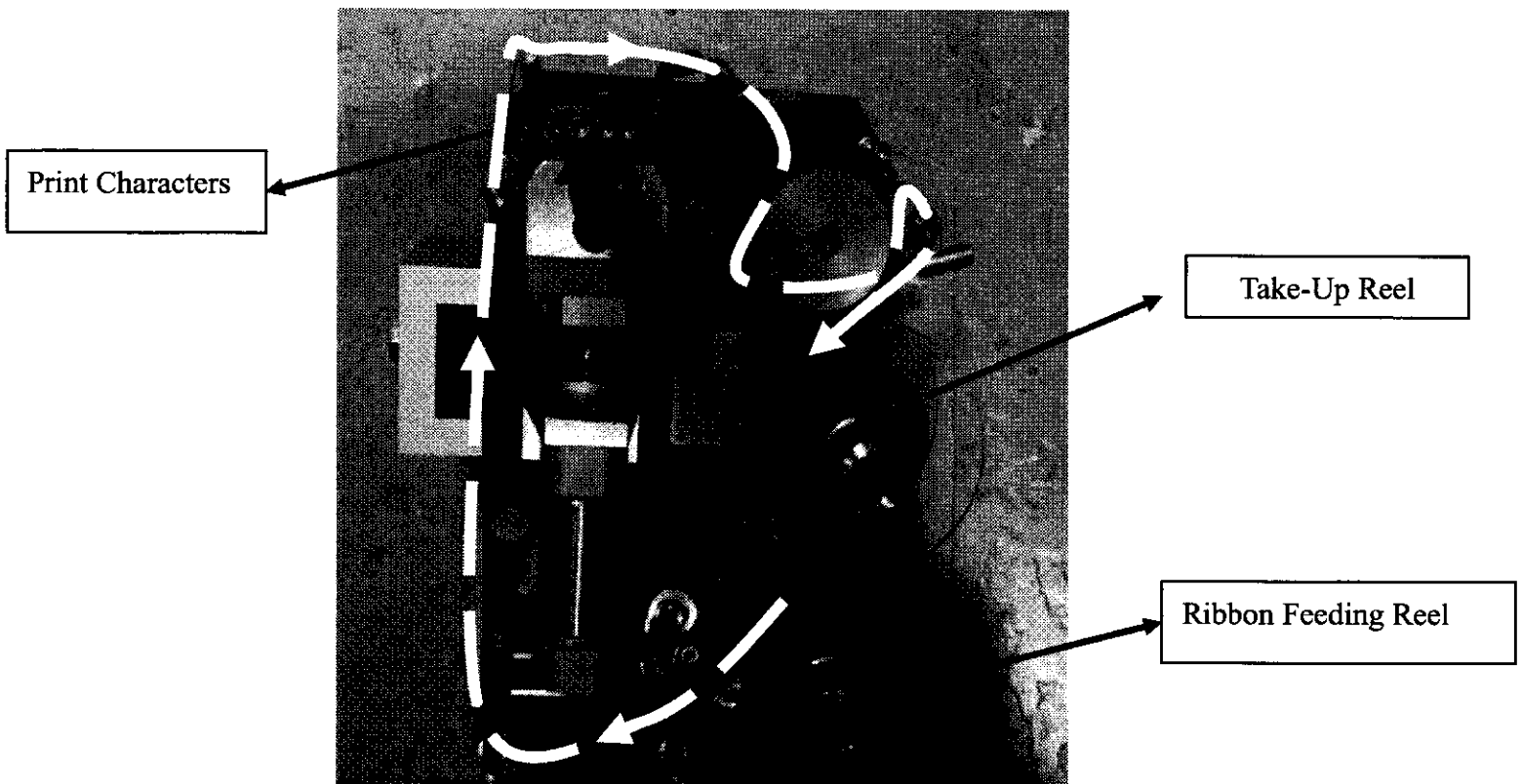
Measure the film width, and adjust the fixed pulley to be centered on the film roll shaft. Insert the roll of film and install the adjustable pulley. Ensure the pulley is fully inserted in the roll of film and tighten as shown in the diagram below:



To feed the film into the former, cut the end of the film to form a triangle, insert the film to pass all the rollers as shown in the diagram below. To change the roll of film, align the end of the old roll with the new roll of film, use tape to stick two ends together. In the case of printed film, make sure that the art work is aligned. In manual mode use the "Make One Bag" button to pull the film through the former.



## 5.2 Printer



### 5.2.1. Installation of printer ribbon:

Please use the above picture when replacing the printer ribbon. The ribbon feeding reel accepts the new roll of ribbon.

### 5.2.2. Change date:

To take out the character holder, push the handle inside (1.5~2mm), at the same time, turn the handle around 90°~180°, and then pull out. Change the characters as needed. Every character in the holder must be carefully aligned and set level. Do not hit the characters with any metal object as they are very fragile. Caution the holder may be extremely hot and can cause burns

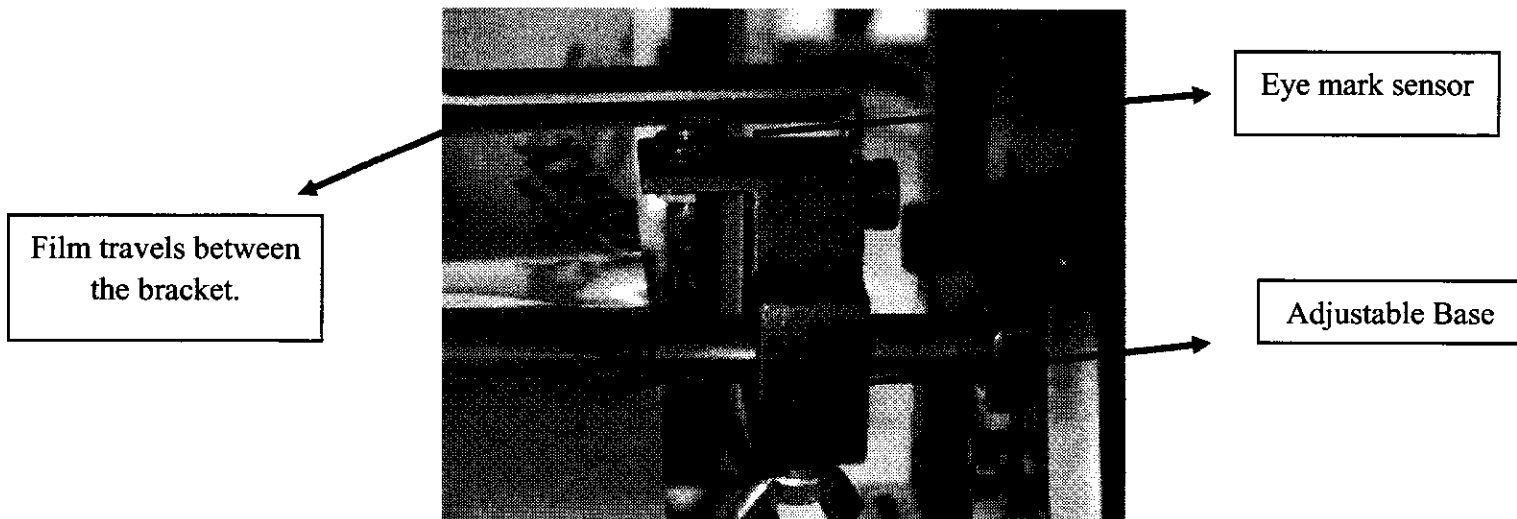
### 5.2.3. Print positioning:

Turn the printer's side handle wheel to place the printer horizontally. Move the print positioning film roller forward or backward to adjust the vertical position of the printer.

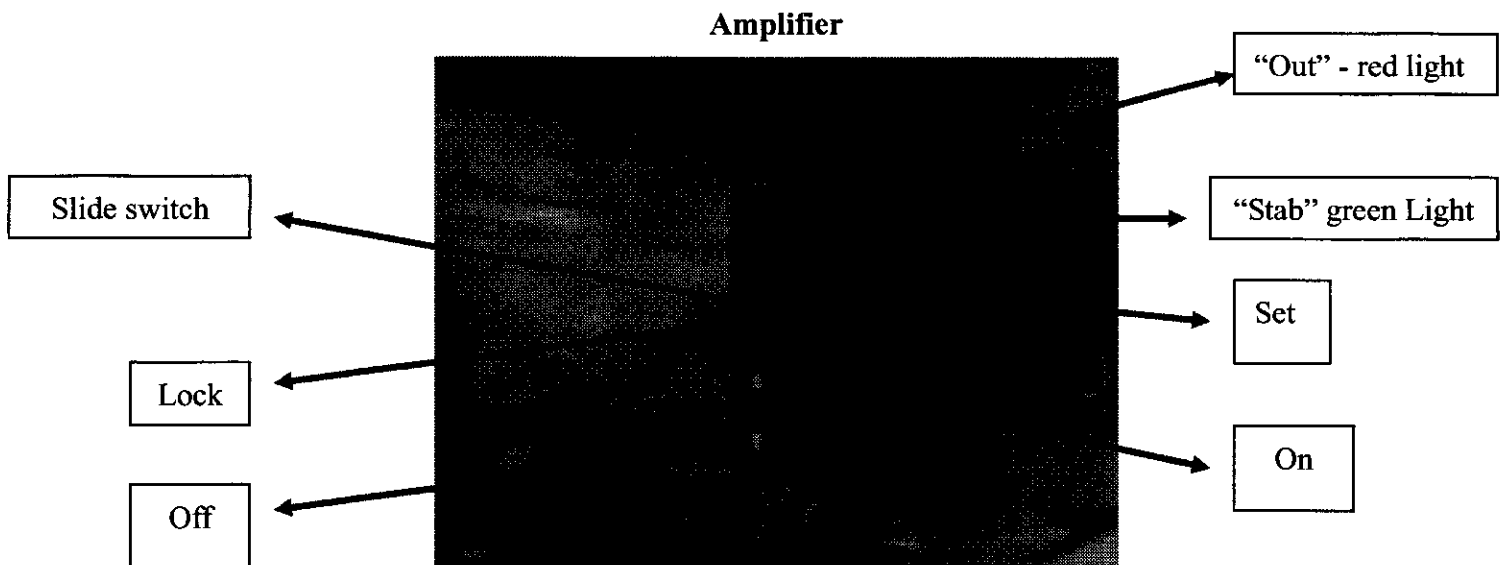


### 5.3. Eye-Mark Sensor

This photo sensor is used to detect the film eye mark. Different films have different contrasts of eye marks and background, which may require a more specialized sensor.

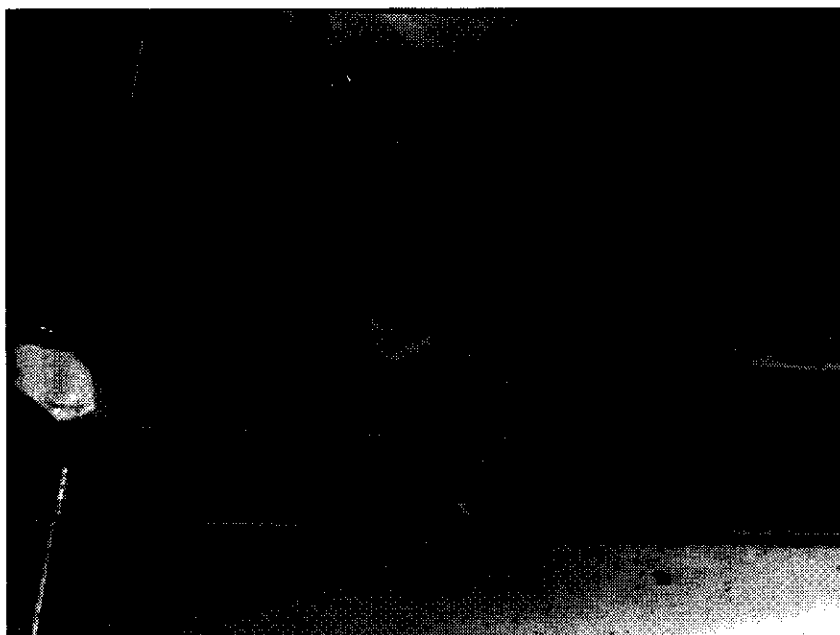


1. Start by positioning the eye-mark sensor to the background of the film. The eye-mark sensor amplifier is located midway inside the machine; the film runs through the mounting bracket).
2. Locate the amplifier, which is located near the former at the front of the machine, set the slide switch to "set" and press the "off" button once. See picture below
3. Place the eye-mark of the film to the sensor light; press the "on" button on the amplifier once.
4. Place the select switch of the amplifier back to the "lock" position.



### 5.4. Film Pull Belt

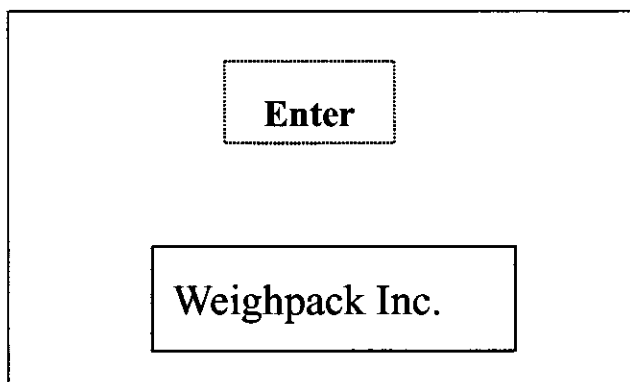
The accuracy of the bag length depends on the air pressure for the film pull belt. There is a dedicated air regulator used only for the film pull belt. To adjust the pressure, pull up the knob and turn clockwise for more pressure and counter clockwise to lower pressure. Set the air pressure at 43 PSI. Run the machine and begin making bags, adjust the air regulator as required to achieve the best results. Press the knob back down to lock in settings.



Regulator, located  
inside back panel.

## 6. Control Panel Operation

6.1 Turn the power on; the control panel touch screen will show the following menu:



6.2. Pressing the “Enter” key will bring you to the homepage.

### Homepage

|  |        |               |
|--|--------|---------------|
| Automatic  | Manual | Function      |
| Parameter  | Alarm  | Screw Setting |
| <div style="border: 1px solid black; display: inline-block; padding: 5px;"> 19.29.3<br/>2007 6 74 </div> |        |               |

Press the “Automatic” key

### Automatic      2007/6/7

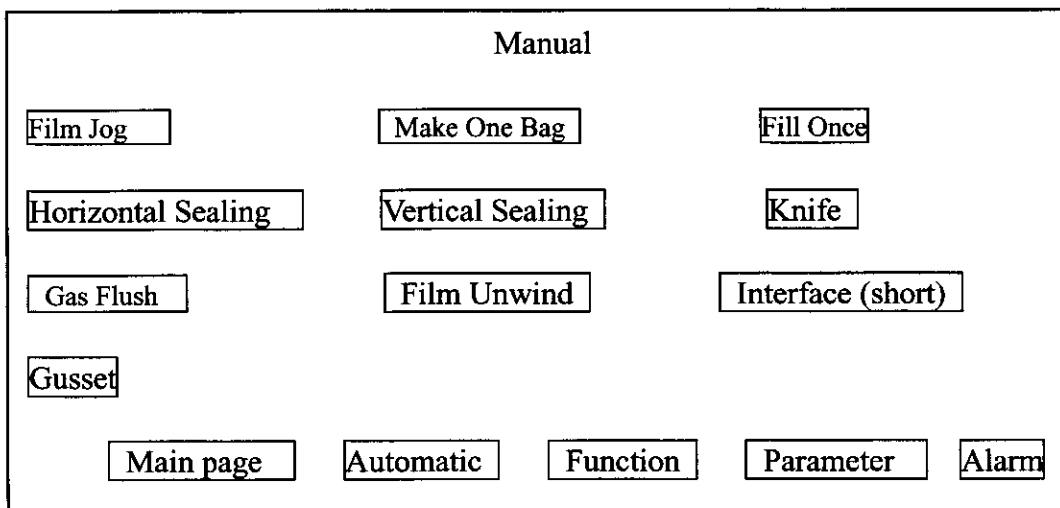
|                |                      |                  |           |        |       |
|----------------|----------------------|------------------|-----------|--------|-------|
| Production NO. | xx                   | Weight           | xx g      | Length | xx mm |
| Fill packing   | OFF                  | Correct          |           | ➡      | ⬅     |
| Test           | OFF                  | Packing<br>Speed | 0.01/min  |        |       |
| Traction       |                      |                  |           |        |       |
| Loosen         | Bag Make<br>counting |                  | xxx       | Clear  |       |
|                |                      | Fill counting    | xxx       | clear  |       |
| Menu           | Manual               | Function         | Parameter | Alarm  |       |

- The “Tracking” arrow keys are used to adjust the tracking of the film while making empty bags.
- The ⬅ key : this is to adjust the film tracking to the left
- The ➡ key : this is to adjust the film tracking to the right.
- The “Fill Packing” key: is used to begin filling bags with an interfaced machine that provides product to be packaged.
- Traction: engages and disengages pull belt motor

The “Automatic” screen shows the product number (recipe), net weight, bag length, actual speed,

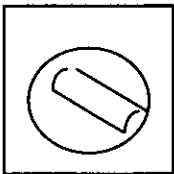
and counter. The buttons at the bottom of the screen bring you to the other menus: Homepage, Manual, Function, Parameter and Alarm.

### 6.3 Manual : ( as shown below )



- **Film Jog:** pressing this button pulls the film down one cycle, but will not seal or operate the knife.
- **Make one Bag:** pressing this button, the machine will produce one empty bag.
- **Fill once:** pressing this button, the filler will cycle once.
- **Horizontal Sealing:** pressing this button closes the jaws; pressing key again returns jaws back to open position.
- **Vertical Sealing:** pressing this button activates the vertical seal bar, press again to return to starting position
- **Knife:** pressing this button activates the film cutting knife, press again to return to starting position.
- **Gas Flush:** activates gas flush into bags (if equipped)
- **Film Unwind:** Unrolls film
- **Interface:** activates interface (if equipped)

### 6.4 Function: Enter the following screen

| Function selection  |                                    |
|---|------------------------------------|
| Eye Mark Tracking   | <input type="button" value="OFF"/> |
| Gas Flush   | <input type="button" value="OFF"/> |
| Gusset Select   | <input type="button" value="OFF"/> |
| Orientation Select  | <input type="button" value="OFF"/> |
| <div>Balance Screw</div> <div></div> <div><input type="button" value="XX"/> mm</div>   |                                    |
| <div><input type="button" value="homepage"/> <input type="button" value="Automatic"/> <input type="button" value="Manual"/> <input type="button" value="Parameter"/> <input type="button" value="Alarm"/></div> |                                    |

1. **Eye Mark Tracking:** “ON” for film eye mark detection. The bag length must be set longer than the distance of the film eye marks. Turn it “OFF” to use a set length. It is used for film with no eye mark. The bag length must then be set before operation.
2. **Gas Flush Select :** Turn the gas-flush “ON” or “OFF”.
3. **Gusset Select:** Turns on the gusset option
4. **Orientation Select:** Fine tune adjustment to the “Eye Mark” auto tracking

## 6.5 Alarm

|                   |        |                        |
|-------------------|--------|------------------------|
| Alarm             |        | ON                     |
| Temperature alarm | ON     |                        |
| No Printer Ribbon | ON     | Glass door open        |
|                   |        | Electric box door open |
| Servo alarm       | ON     | Emergency Stop         |
| Low temperature   | ON     |                        |
| No packing film   | ON     | Delay time alarm 1 S   |
| No material       | ON     | Delay time alarm 0 S   |
| Menu              | Manual | Function               |
| Parameter         | Alarm  |                        |

The alarms can be set with the “ON” and “OFF” button. Set the alarms as need to “ON”. If it shows the alarm, for example “temperature” and/or “no film” the machine will stop working. You must correct the problems as soon as possible. Then press the alarm that has triggered “On/Off” button to reset it. You must clear all the alarms before the machine can resume working. To turn off all the alarms press the main “Alarm” button at the top of the screen.

## 6.6 Parameter setting

| Save   | Parameter setting (1) | next |             |    |    |    |    |    |   |   |   |            |    |    |    |    |    |    |    |    |
|--|-----------------------|------|-------------|----|----|----|----|----|---|---|---|------------|----|----|----|----|----|----|----|----|
| <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th style="width: 20%;">Product No.</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> <tr> <td>weight : g</td> <td>xx</td> <td>xx</td> <td>xx</td> <td>xx</td> <td>xx</td> <td>xx</td> <td>xx</td> <td>xx</td> </tr> </table>       |                       |      | Product No. | 1  | 2  | 3  | 4  | 5  | 6 | 7 | 8 | weight : g | xx | xx | xx | xx | xx | xx | xx | xx |
| Product No.  | 1                     | 2    | 3           | 4  | 5  | 6  | 7  | 8  |   |   |   |            |    |    |    |    |    |    |    |    |
| weight : g   | xx                    | xx   | xx          | xx | xx | xx | xx | xx |   |   |   |            |    |    |    |    |    |    |    |    |
| <div style="display: flex; justify-content: space-between;"> <div>Length <input style="width: 50px;" type="text" value="xxx"/> mm</div> <div>speed <input style="width: 50px;" type="text" value="xx"/></div> </div>   |                       |      |             |    |    |    |    |    |   |   |   |            |    |    |    |    |    |    |    |    |
| <div style="display: flex; justify-content: space-between;"> <div>Drawing <input style="width: 50px;" type="text" value="xxx"/> bag/min</div> <div>drive frequency <input style="width: 50px;" type="text" value="xx"/></div> </div>   |                       |      |             |    |    |    |    |    |   |   |   |            |    |    |    |    |    |    |    |    |
| <div style="display: flex; justify-content: space-between;"> <div>Hor. Seal delay <input style="width: 50px;" type="text" value="xxx"/></div> <div>Hor. sealing <input style="width: 50px;" type="text" value="xxx"/></div> </div>   |                       |      |             |    |    |    |    |    |   |   |   |            |    |    |    |    |    |    |    |    |
| <div style="display: flex; justify-content: space-between;"> <div>Ver. Seal delay <input style="width: 50px;" type="text" value="xxx"/></div> <div>Ver. sealing <input style="width: 50px;" type="text" value="xxx"/></div> </div>   |                       |      |             |    |    |    |    |    |   |   |   |            |    |    |    |    |    |    |    |    |
| <div style="display: flex; justify-content: space-around;"> <input style="width: 80px;" type="button" value="Home page"/> <input style="width: 80px;" type="button" value="Automatic"/> <input style="width: 80px;" type="button" value="Manual"/> <input style="width: 80px;" type="button" value="Function"/> <input style="width: 80px;" type="button" value="Alarm"/> </div> |                       |      |             |    |    |    |    |    |   |   |   |            |    |    |    |    |    |    |    |    |

| Save   | Parameter setting (2) | previous | next |
|--|-----------------------|----------|------|
| <div style="display: flex; justify-content: space-between;"> <div>Chain bag no. <input style="width: 50px;" type="text" value="xxx"/> b</div> <div>Chain Bag Knife <input style="width: 50px;" type="text" value="xxx"/> S</div> </div>  |                       |          |      |
| <div style="display: flex; justify-content: space-between;"> <div>Knife delay <input style="width: 50px;" type="text" value="xxx"/> S</div> <div>Knife <input style="width: 50px;" type="text" value="xxx"/> S</div> </div>  |                       |          |      |
| <div style="display: flex; justify-content: space-between;"> <div>Gas Flush delay <input style="width: 50px;" type="text" value="xxx"/> S</div> <div>Gas Flush <input style="width: 50px;" type="text" value="xxx"/> S</div> </div>  |                       |          |      |
| <div style="display: flex; justify-content: space-between;"> <div>Gusset delay <input style="width: 50px;" type="text" value="xxx"/> S</div> <div>Gusset <input style="width: 50px;" type="text" value="xxx"/> S</div> </div>  |                       |          |      |
| <div style="display: flex; justify-content: space-around;"> <input style="width: 80px;" type="button" value="Home page"/> <input style="width: 80px;" type="button" value="Automatic"/> <input style="width: 80px;" type="button" value="Manual"/> <input style="width: 80px;" type="button" value="Function"/> <input style="width: 80px;" type="button" value="Alarm"/> </div> |                       |          |      |

When you load into the above pages; choose the product number, from 1 to 8.

Input the Product No - Net weight - Bag Length – Speed –All the sealing times according to the product's specifications then press save to keep all these settings in memory. You can save up to 8 recipes.

## Default Settings:

**Horizontal Delay:** 0.00 S

**Horizontal time:** 0.50S—0.85S

---

|                                    |                                   |
|------------------------------------|-----------------------------------|
| <b>Vertical Delay:</b> 0.50S—0.85S | <b>Vertical time:</b> 0.50s—0.85S |
| <b>Gas delay:</b> 0.14S—0.20S      | <b>Gas flushing:</b> 0.10S—0.18S  |
| <b>Knife delay:</b> 0.36S—0.40S    | <b>Knife:</b> 0.20S               |
| <b>Inverter:</b> 1000-9999         | <b>Pulls delay:</b> 0.30S-0.50S   |
| <b>Loading times:</b> 0-99N        | <b>Cutter time:</b> 0.20S         |

## **7. Maintenance**

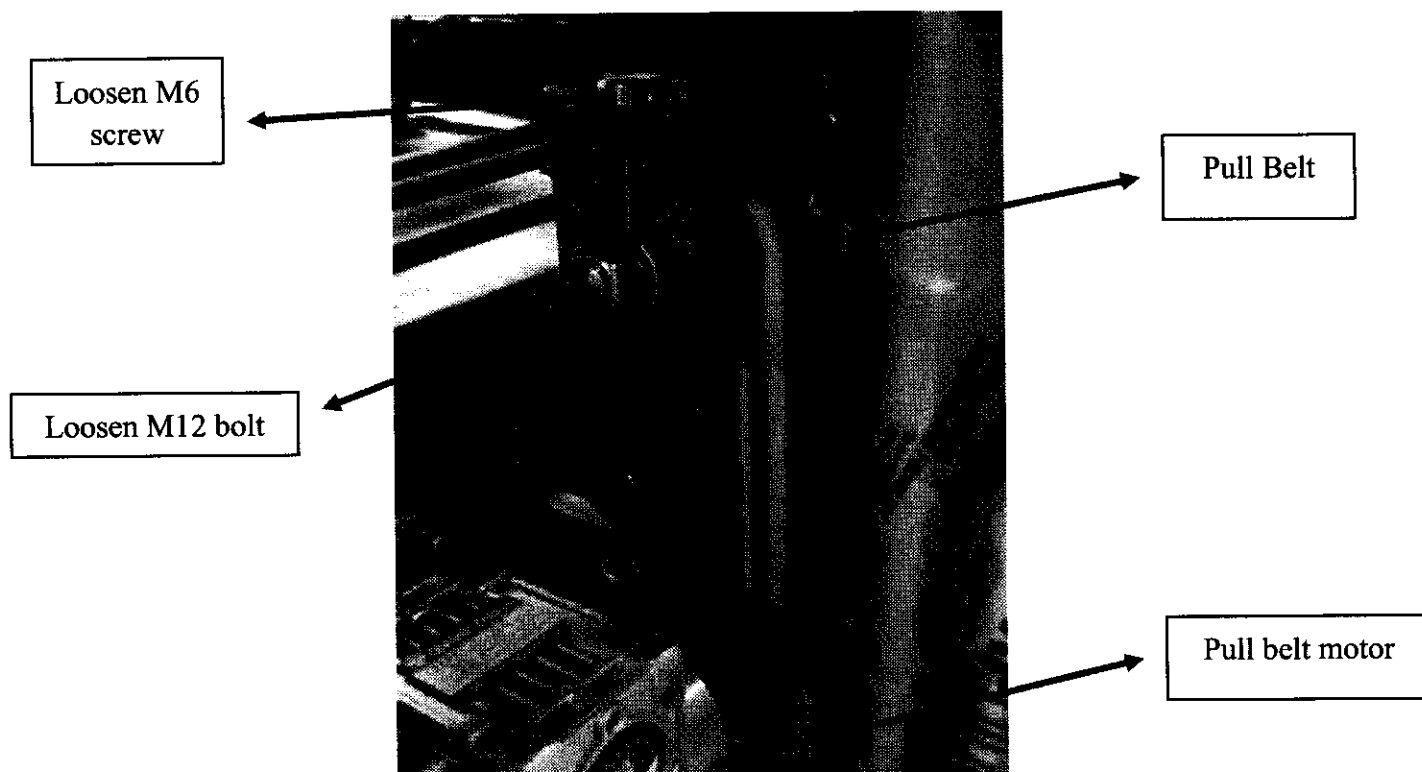
### **7.1. Film pulls belt replacement**

The film pull belt should be checked everyday, if it starts to wear out the film will begin to slip, and cause improper vertical seals as well as bag length variations. We recommend replacing the belt



every three to six months.

First disconnect the air and power supply, then open the doors, then take note of the belt's tension. Loosen the M12 bolt and nut; turn the M6 screw to make the pulley move down. Remove the old belt and replace it with a new belt. Adjust the tension of the belt, over tightening may cause damage, as under tightening will cause slippage.



## 7.2. Maintenance

### 7.2.1.

While the machine is powered off, you should clean and inspect the machine daily. Use compressed air to clean any dust on the machine. Use a brass brush to clean the horizontal and vertical sealing bars. Use caution, as these surfaces may be extremely hot and can cause serious injury.

### 7.2.2.

The former should be cleaned regularly. Make a witness mark before you remove the former from the machine to ensure it is placed back in its original position after cleaning. We recommend using acetone to clean the metal surface of the former to thoroughly remove any contaminants.

### 7.2.3.

The knife should be checked periodically. It must be replaced with a new knife if any damage has been noted or bags are not being cut properly.

#### 7.2.4.

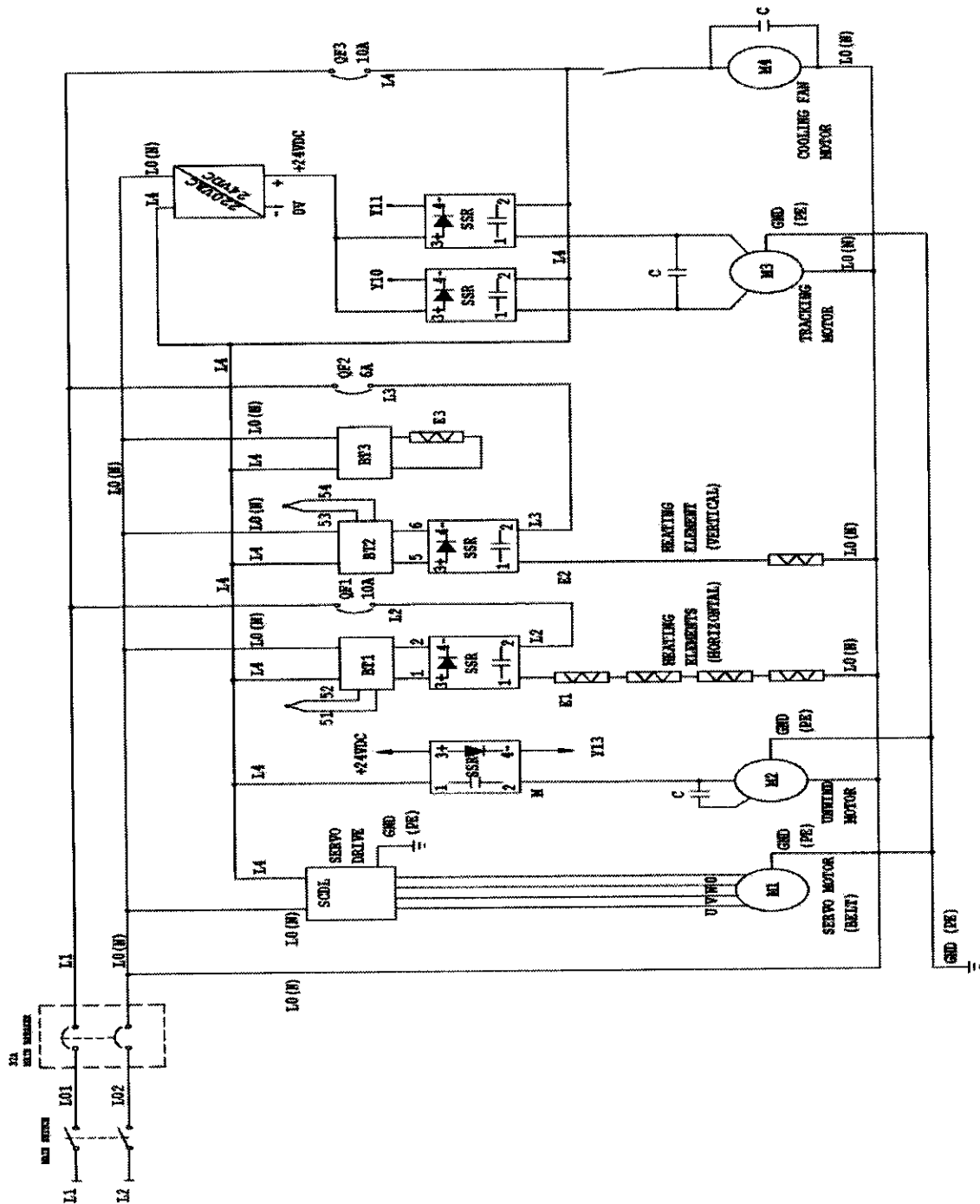
When storing the machine for a long period of time, disconnect the air and power and clean the machine thoroughly. Before re-use, the machine must be tested and adjusted. All the electrical components and their connections must be thoroughly check before powering on.

### 8. Troubleshooting

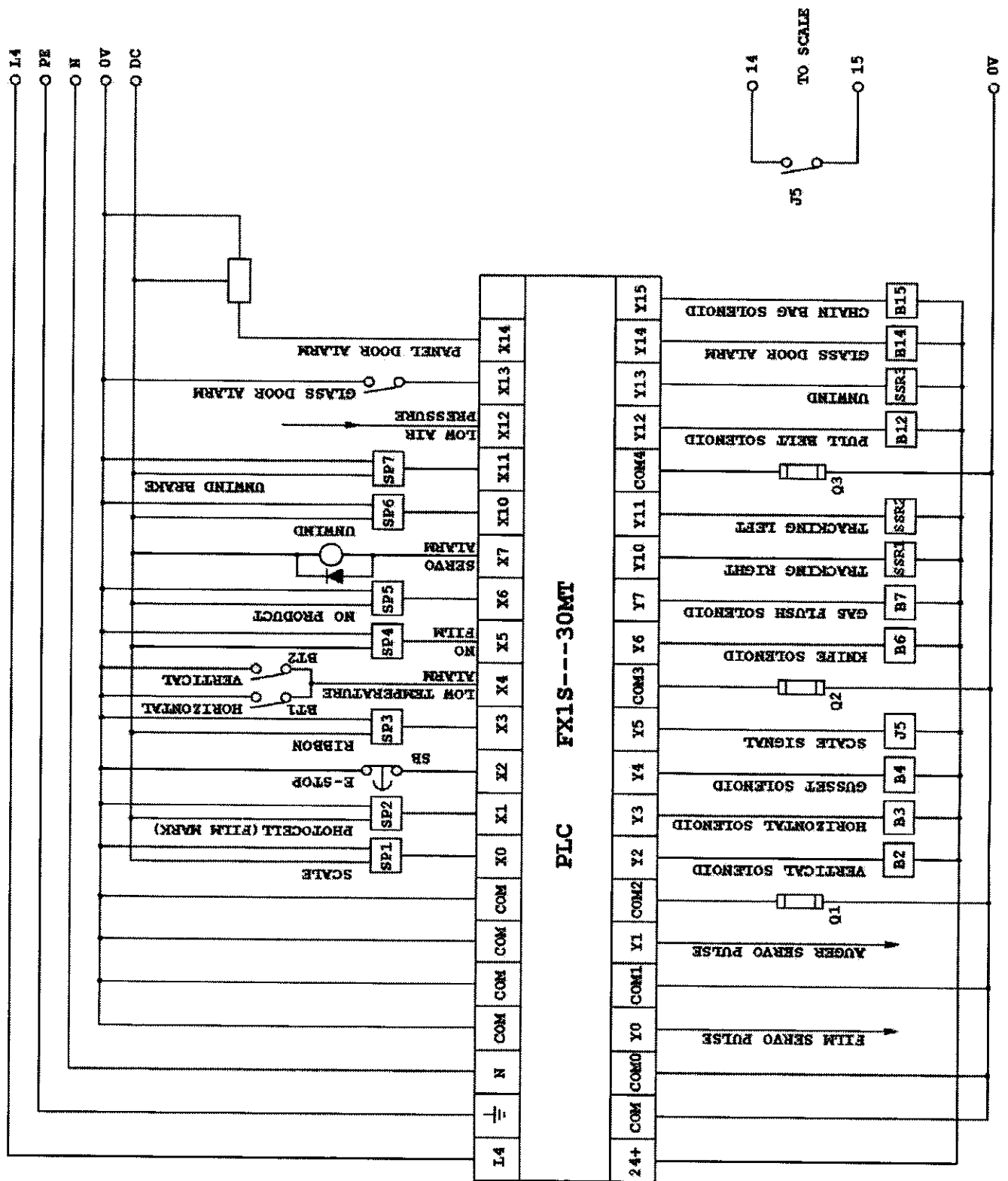
| Problem   | Possible Cause   | Solution  |
|---|--|---|
| Breaker trip  | 1. Heater element defective<br>2. Wire loose or insulation broken  | 1. Check the elements one by one<br>2. Check wires, insulation and their connection   |
| Display on the temperature controller is not stable | Loose or defective thermo-coupler  | Fix or replace the thermo-coupler   |
| Seal bars do not heat up                            | 1. Breaker trip<br>2. Defective heater element<br>3. Defective temperature controller or wrong setting   | 1. Clear short circuit and reset the breaker<br>2. Replace the defective element<br>3. Check the setting of the temperature controller and replace the defective controller |
| During operations the temperature decreases         | 1. Low voltage<br>2. Speed is too fast   | 1. Check the supply voltage (220V), if too low install the voltage regulator<br>2. Slow down the speed  |
| Bag seal leaking                                    | 1. Temperature setting is inaccurate<br>2. Air pressure is inaccurate<br>3. Seal time too short<br>4. Seal jaws not parallel                                 | 1. Adjust the temperature setting<br>2. Check air supply<br>3. Set the seal time longer<br>4. Adjust the seal jaws  |
| Bag length not stable                               | 1. Film quality is not good<br>2. Color mark sensor does not teach-in<br>3. Bag length setting not long enough<br>4. Film pull belt may be dirty or worn out | 1. Try another roll of film<br>2. Teach-in the sensor<br>3. Set bag length longer<br>4. Clean or replace the belt   |

### 9. Electrical Schematic

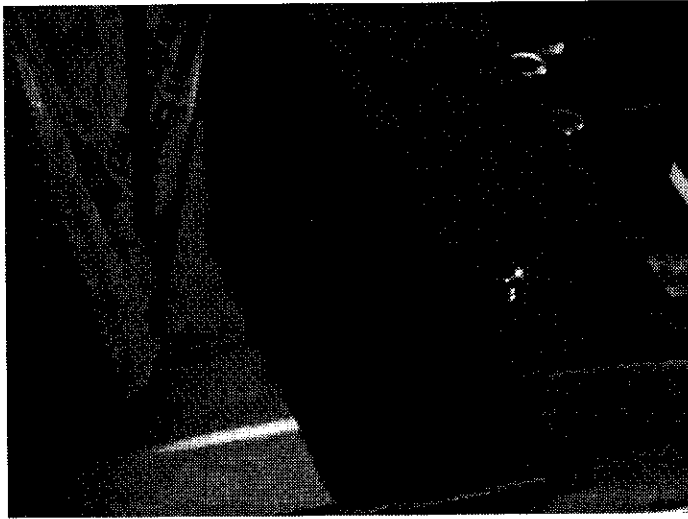
## 9.1. Main Circuit



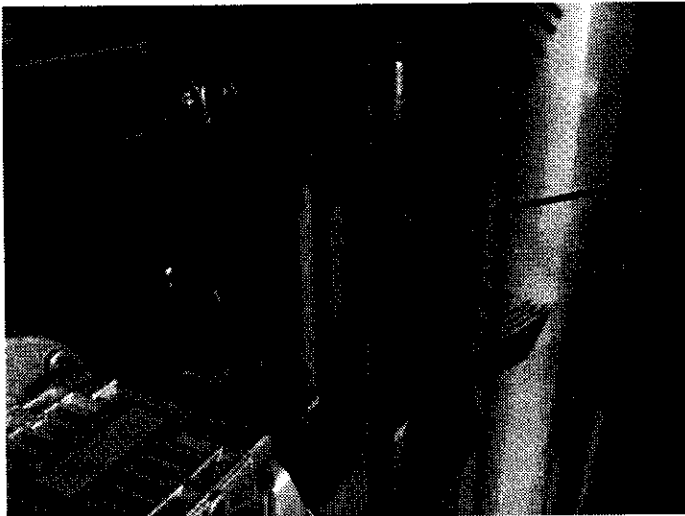
## 9.2. PLC connection



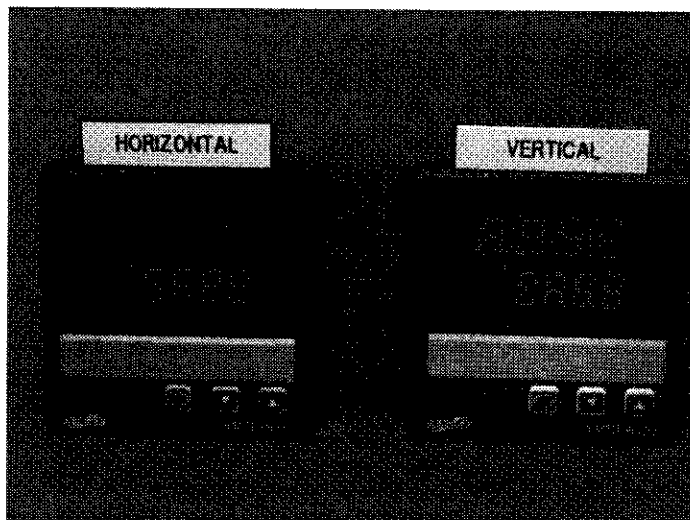
## Parts List



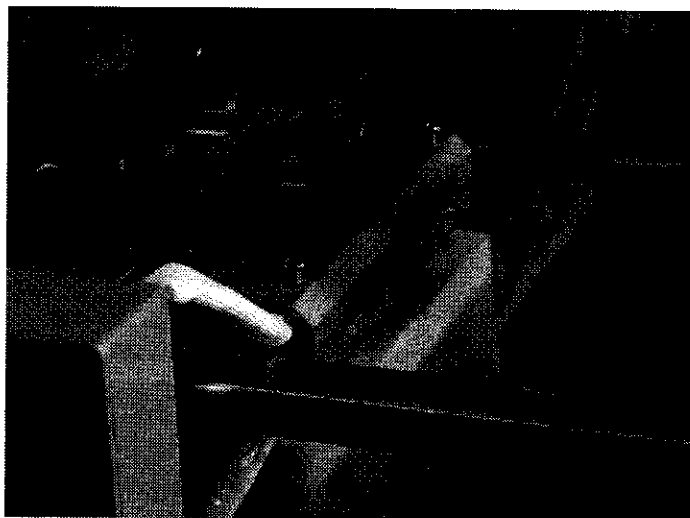
Knife  
P107383-006



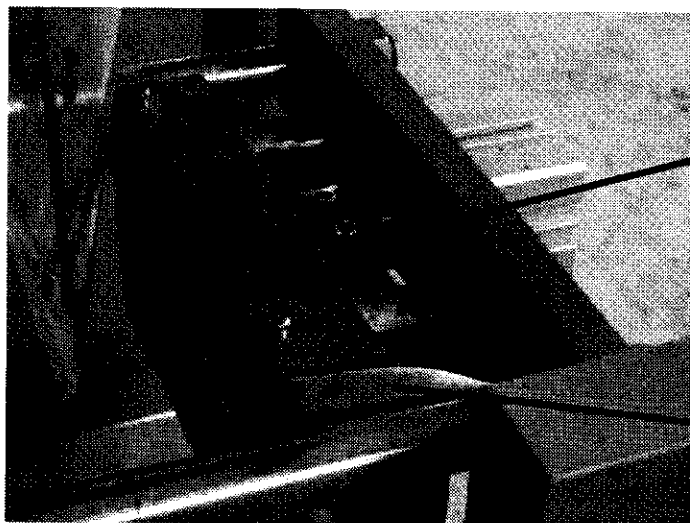
Pull Belt  
P107383-003



Temperature Controller  
P107383-009

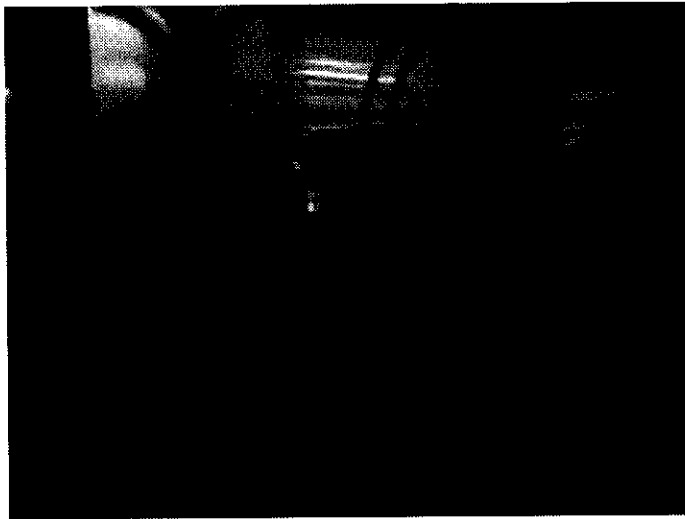


Rear Sealing Jaws  
P107383-201

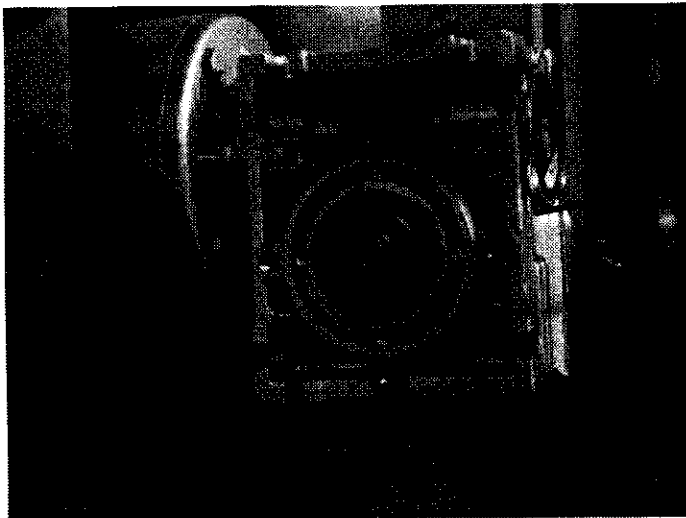


Front Sealing Jaws  
P107383-200

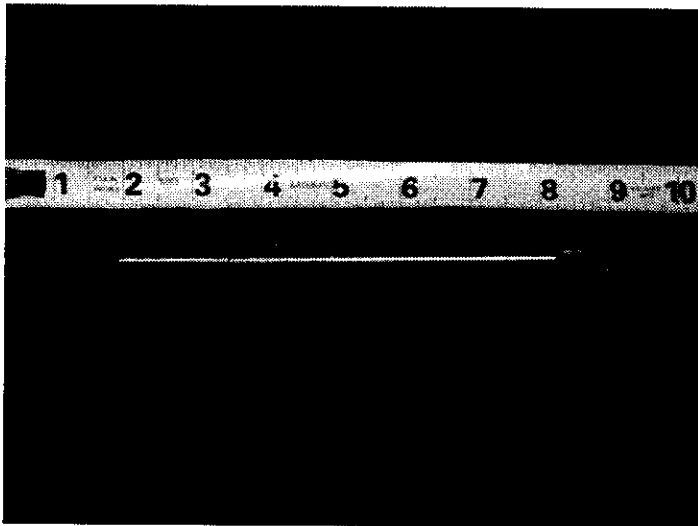
Horizontal Heating Element  
P107383-001



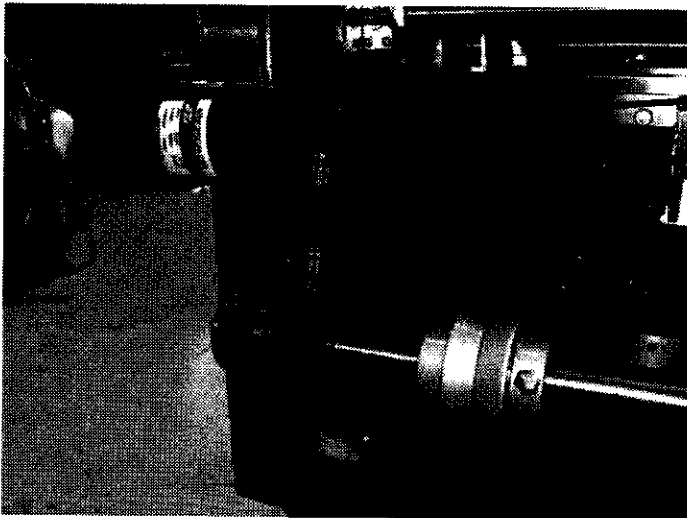
Amplifier  
P107383-033



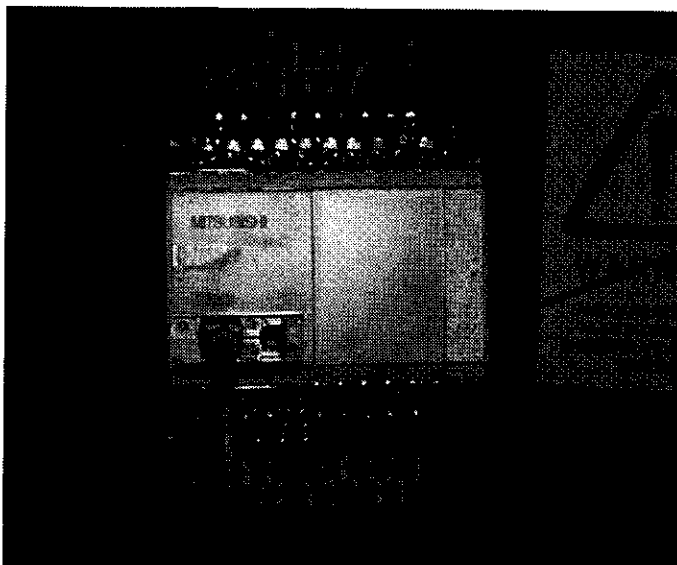
Pull Belt Servo Motor  
P107383-007



Heating Element for  
Vertical Heater  
P107383-001

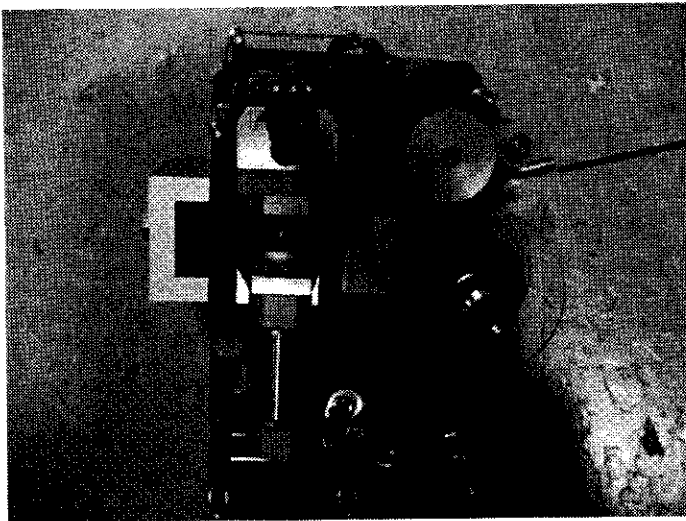


Film Unwind Motor  
P107383-023

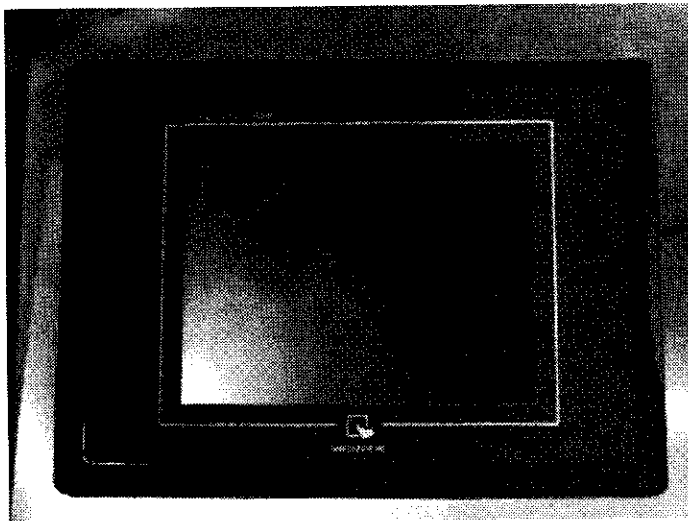


PLC  
P107383-014

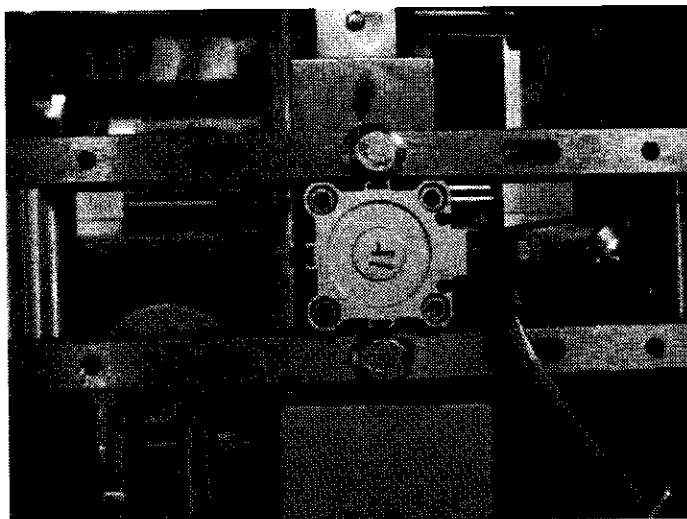




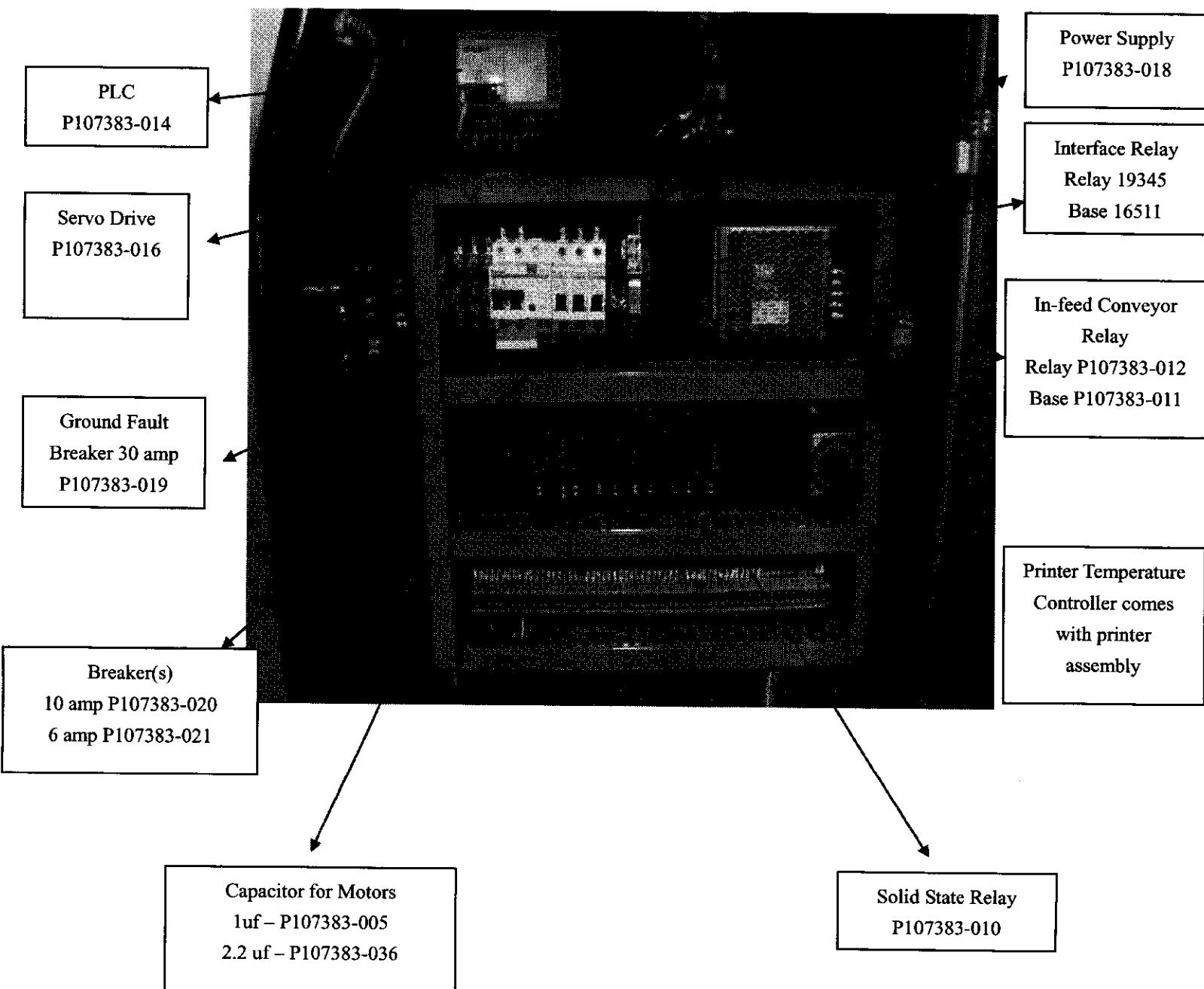
Printer Assembly  
A107383-033



Touch Screen  
P107383-015



Cylinder for Knife 32\*10  
P107383-030

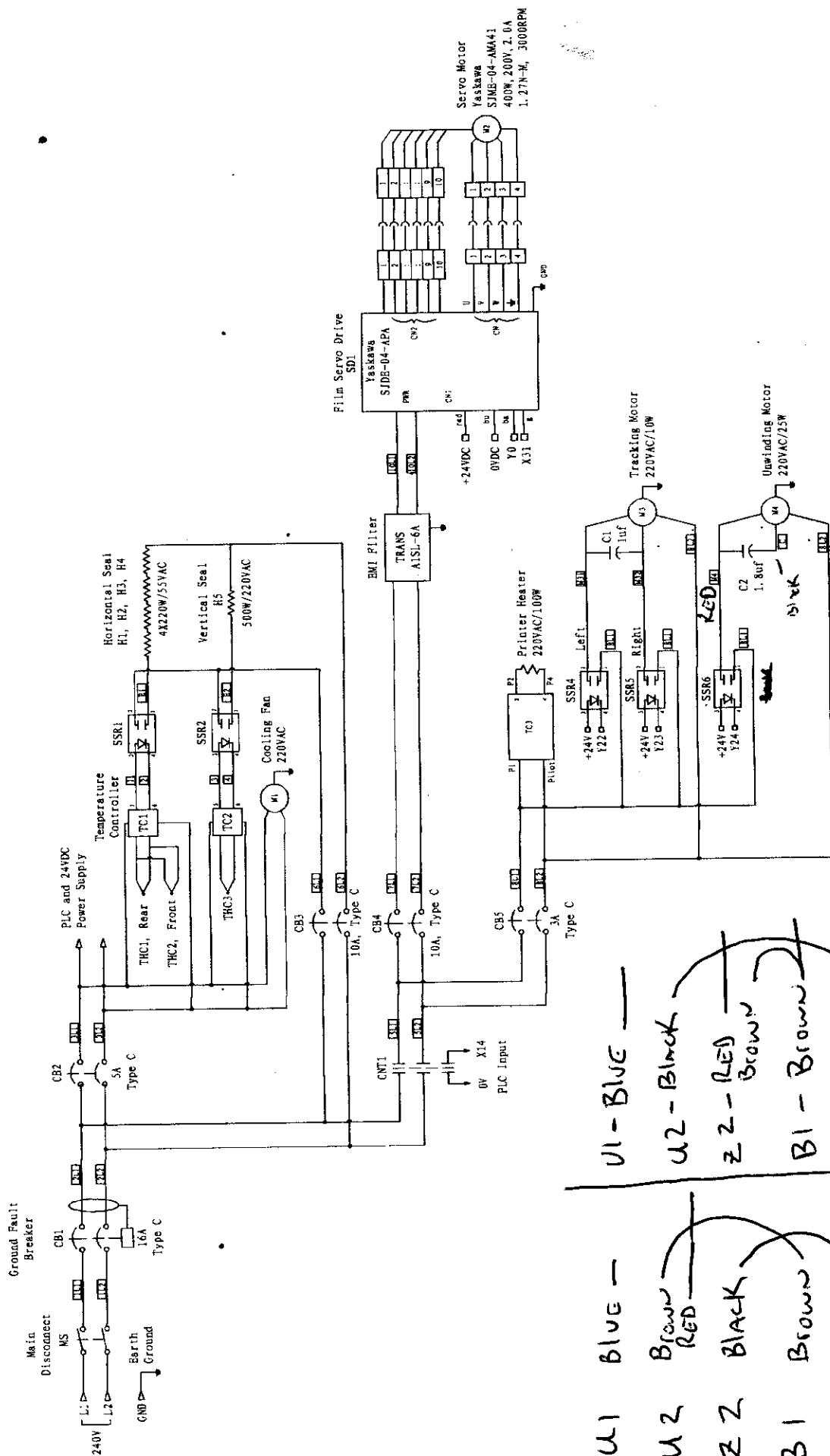






152-610205687

# Main Circuit



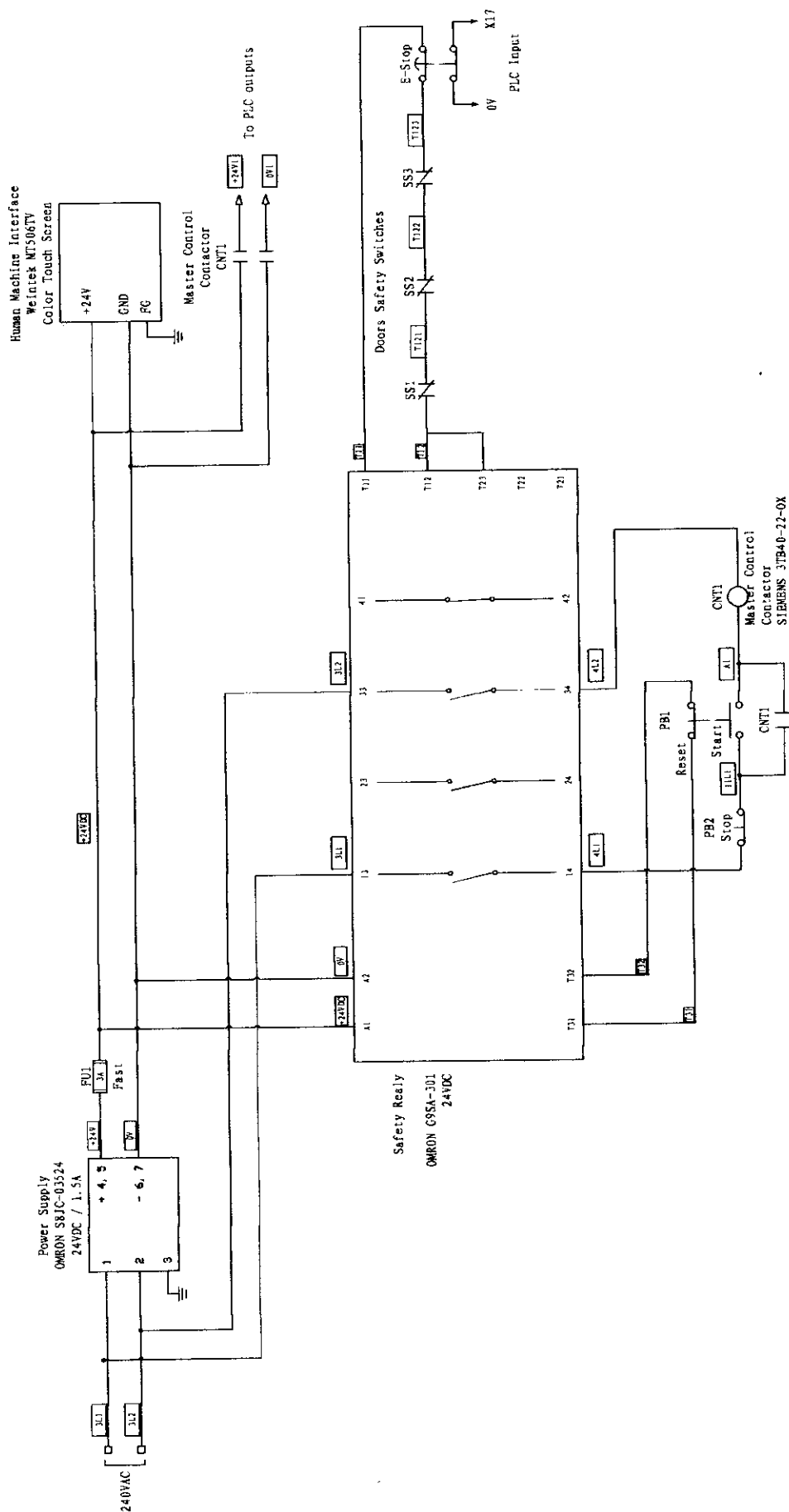
U1 Blue —  
 U2 Brown —  
 Z Z Black —  
 B1 Brown —  
 B2 Black —

U1 Blue —  
 U2 Black —  
 Z Z Red —  
 B1 Brown —  
 B2 Black —

|                  |                           |
|------------------|---------------------------|
| WEIGH-PACK       | TITLE: Main Circuit       |
| DATE: 2008.03.18 | MODEL: Varnak Junior Shop |
| DRAWN BY: Kana   | REV: 1.00                 |
| CHECKED BY: Kana | SHEET: 1/5                |



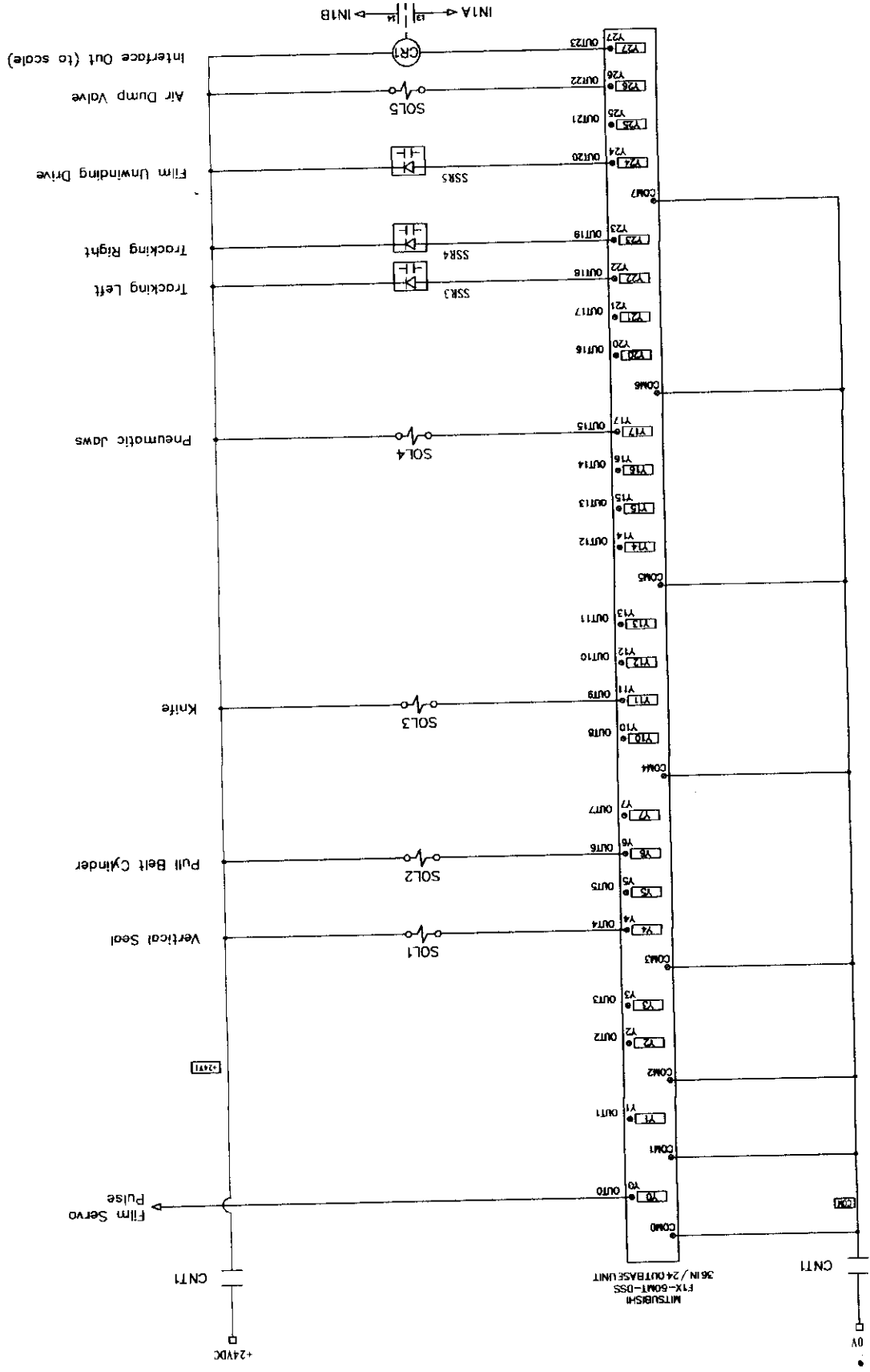
# Master Control



|                  |                           |           |
|------------------|---------------------------|-----------|
| WEIGH-PACK       | TITLE: Master Control     | REV. 1.00 |
| DATE: 2008.03.18 | MODEL: Vertek Junior Shop | SHEET 2/3 |
| DRAWN BY: Zora   | VERIFIED BY:              |           |







PLC Outputs



# PLC Inputs

