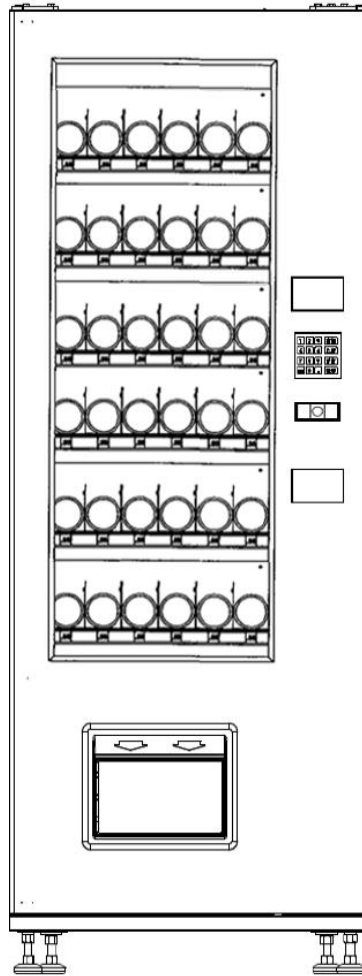




**HUNAN XING YUAN TECHNOLOGY Co., LTD.**

**NEW RETAIL SOLUTIONS MANUFACTURER**

## **Operation and Service Manual**



**Glass Front Vendor**  
(XY - DLE - 6A)

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## PUBLICATION NOTICE

It is our intent to assist our customers with up-to-date documentation: however, this manual may not contain all updates and is subject to revision without notice. Please contact our Service Department with your requests or comments.

# 1 GENERAL INFORMATION

## 1.1 Preface

Congratulations for your choice of XY Vendor machine. Please read this manual carefully and keep it in a safe place. The information it contains is essential for the proper use of the machine.

Through this manual, XY Vendor intends to establish a collaboration with you, in order to improve our product and make it more flexible for your needs. For this reason, we invite you to report any error, inaccuracy, malfunction, or suggestion, remark, opinion, through the contacts indicated in this manual.

Since a coordination among all the professional figures involved in production is required to ensure a proper and safe operation of the machine, this manual has been conceived and drafted in order to provide details and suggestions (responsibilities, training, procedures, use and maintenance) for each type of operator.

## 1.2 Recommendations for the user

We recommend the users to respect the following points:

- 1) Read the whole manual (for a better understanding of the procedures);
- 2) Operate by fully respecting the company procedures and those indicated in this manual;
- 3) Do not perform any actions or take any initiatives different from those indicated without the agreement of the supervisor.

In this way the user shows to have operated in full compliance with the procedures. Any intervention other than those indicated might be interpreted as an unsolicited and arbitrary action for which the single user is liable.

## 1.3 Purpose of the manual

This manual:

- 1) bears the technical information required to handle the packaging, commissioning, use, maintenance and decommissioning of the machine correctly;
- 2) it is an essential part of the supply and must be read carefully in order to use the machine properly, in compliance with the essential safety requirements;
- 3) it must be kept with care (protected by a transparent watertight cover to prevent deterioration) and must accompany the machine throughout its lifespan, even if sold to third parties. Should it be lost or damaged, a copy can be requested from XY Vendor, reporting the data on the identification plate;
- 4) it must be read BEFORE the other documents supplied. It contains all the indispensable information to use and maintain the machine in safe and efficient conditions.

Before carrying out any operation on the machine, carefully read all the documentation provided in order to prevent possible damage to the machine, persons or objects. Do not operate if in doubt regarding the correct interpretation of the instructions.

XY Vendor shall not be held responsible for improper use of the machine, or any damage caused by operations carried out which are not dealt with in this manual and in the attachments. The instructions, drawings and documentation contained in this manual have a technical nature strictly reserved to the property of XY Vendor (hereinafter referred to as: the manufacturer) and may not be reproduced in any way, either entirely or in part.

### **Notice:**

*The images in this manual are purely indicative and therefore not to be considered binding.*

## **1.4 Warranty and exclusion of responsibility**

Complete warranty clauses are indicated in the sales contract.

The warranty is subject to the following conditions:

- 1) the machine shall be used according to the instructions of the manual;
- 2) maintenance shall be carried out within the time limits and according to the methods provided by the manual, using original spare parts and referring to qualified personnel for interventions.

The manufacturer refuses any liability deriving from:

- 1) improper use;
- 2) use by unauthorized and/or untrained personnel;
- 3) use without protections and/or with disabled, malfunctioning or missing safety devices;
- 4) total or partial failure to observe the instructions;
- 5) incorrect installation of the machine;
- 6) defects in the working environment (excessive temperature and humidity);
- 7) failure in power supply system;
- 8) execution of operations not reasonably foreseeable;
- 9) lack of maintenance
- 10) external machine contamination (such as, Sulphured-laden air);
- 11) unauthorized modifications and repairs;
- 12) use of non-original spare parts;

13) exceptional events such as earthquakes or flooding, fires (if not directly caused by the machine).

## **1.5 Requesting technical assistance**

The service is available for explanations, for interventions at the customer's premises by sending specialized personnel or for sending spare parts.

Always specify:

- 1) name of the Customer and identification data;
- 2) identification data of the machine, such as: type, serial no. (order), year of manufacture.

## 2 INTRODUCTION

DLE-6A models are multifunctional, high-capacity vending machines. This model has been designed, tested and manufactured to provide years of reliable, low- maintenance services in indoor environments.

### 2.1 Model identification

When requesting service, replacement parts or technical assistance, please copy the information on the vendor's serial number plate (Figure 2.1 -1). It is installed in the lower left corner of the back of the machine. The information contained on this nameplate is necessary to determine which parts, kits or maintenance should be applied to your specific model.



Figure 2.1 - 1 Typical serial plate

#### 2.1.1 Model number breakdown

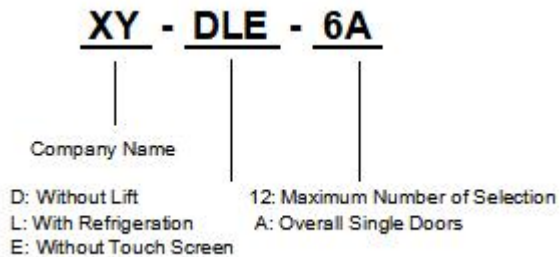


Figure 2.1 - 2 Model number breakdown

It is a 6-selection with refrigeration integral side door model, and it is also the company's standard model.

### 2.2 Technical parameters

#### 2.2.1 Operating environment

The product is suitable for the altitude below 2000 meters, the ambient temperature is between -10°C -40°C, and can be placed indoors and outdoors. If put it outdoors, The vendor should not be located in an area where it may be subjected to a water jet or rain.

#### 2.2.2 Machinery related projects

Cabinet Physical Dimensions:  
1940mm\*745mm\*860mm  
(Height \*Width\* Depth)

Machine Weight: 220kg

Unit Capacity: Around 300 units (6 trays \* 6 columns), units depending on configuration.

Open Door Angle: 180°

Thermal Insulation Technology: Polyurethane integral foam

#### 2.2.3 Electrical related projects

Rated Voltage: AC 110V ~ 240V

Standby Current: 1.190A

Standby Power: 76.16W

Rated Power: 580W ±10% rated

Average Daily Power Consumption: 6.5kW.h

### 2.2.4 Cold and hot related projects

Compressor: Embraco

Refrigerant: R290,80g

Refrigeration Temperature:4~25°C

Heating Method: PTC

### 2.2.5 Payment system

XY vendors will support all Multi-Drop Bus(MDB) coin mechanisms, bill validators and card-readers. Where applicable, it will also support the "Executive Mechanism" coin changer.

### 2.3 Selection configuration

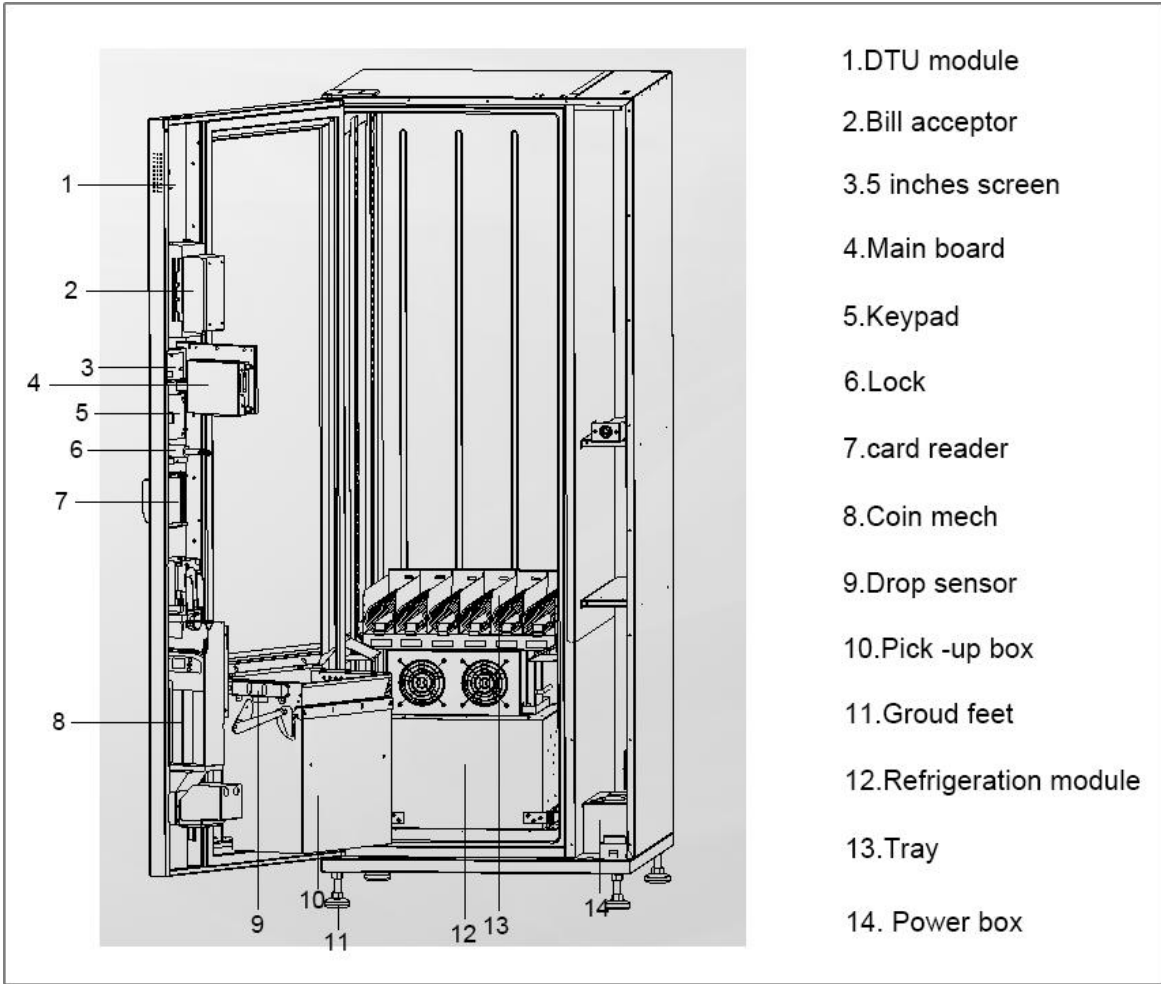
4		4		4	
7		7		7	
6	6	6	6	6	6
5	5	5	5	5	5
6	6	6	6	6	6
8	8	8	8	8	8

Example: 6A models using typical configuration

It has 6 layers and 6 columns. The number in the picture represents the spring pitch (the number of products that can be placed)

This is a standard selection, customers can change the number and size of selection according to their needs.

### 2.4 Cabinet structure



The above pictures are for reference only

## 3 SAFETY

### 3.1 Commitment to safety

XY VENDING Technology companies are committed to designing and producing safe products. As with all electrical or mechanical equipment, there are some potential hazards.

Our purpose is to remind the personnel who will be repairing the equipment to pay attention to these potential hazards. This manual can be used to train users and provide basic safety guidelines.

To reduce the risk of serious injury or death, please read and follow all warnings in this manual. It should be pointed out that these warnings are not comprehensive. It is impossible to predict all service methods of the users, nor can it predict all possible safety hazards that may be caused by the service. Therefore, we always urge you to beware of dangers such as electric shock, mechanical jamming and dumping of vendors during the movement.

We strongly recommends that all service personnel or organizations make a commitment to safety. Only personnel who have been properly trained in the vendor's services should attempt to perform any repairs on the vendor's internal components.

**Keeping the vendor in a safe state is the sole responsibility of the owner.**

### 3.2 Safety precautions

Below are listed safety precautions and safety practices to follow to avoid injury from selected hazards. This list cannot possibly cover all hazards, therefore please remember to

**++ THINK SAFETY FIRST! ++**

#### 3.2.1 High-voltage electric shock

Each vendor is designed to operate at a specific voltage, depending on the country/region. It can be single-phase AC 110V 60Hz or AC 220-240V 50-60Hz. The voltage is specified on the serial number plate (see section 2.1 Model identification). The high-pressure area includes electrical panels, refrigeration units and fans. It is important to understand that contact with high-voltage lines can cause personal injury or death.

- 1) Always test the outlet for proper voltage, polarity and grounding before plugging in the vendor;
- 2) Always disconnect power to the vendor before servicing. Allow only fully trained service technicians to service the vendor if service must be performed with the power on;
- 3) Always keep electrical connections dry. Do not place the vendor in or near standing water;
- 4) Never use a worn or damaged power cord.

#### 3.2.2 Grounding

Certain electrical components have a yellow-green ground wire connected to the vendor's ground point. If you need to remove the ground wire during maintenance, please pay attention to how the wire is connected, including the location of any gaskets. After repairing, make sure that the wires and gaskets are completely replaced as they are. Please note that the vendor may work normally without a ground wire, but ungrounded components may present a risk of electric shock.

- 1) Before plugging into the vendor, always test that the outlet is properly grounded;
- 2) Be sure to reconnect the ground wire after repair.

### 3.2.3 Spring motion and jamming

Energized vendor motors can turn a spring with considerable torque, creating a possible entrapment hazard. Also, turning helices may eject tools or other objects left on trays. A spring that is jammed or caught can store energy as it binds, which can cause it to twist or spring outward suddenly even if power is disconnected. Use gloves and caution when freeing a jammed spring.

- 1) Before servicing the vending machine motor, be sure to disconnect the vendor or control board from the power source;
- 2) When loading the product, be sure to check whether it is suitable to avoid jamming;
- 3) Before releasing the stuck or jammed spring, be sure to constrain the spring first;
- 4) When servicing the vendor, always wear hand and eye protection;
- 5) Keep hands, hair, loose clothing and tools away from moving parts at all times.

### 3.2.4 Vendor tilt

The weight of an empty vendor is over 300kg. A falling vendor can cause serious injury or death. Caution should always be taken to avoid dropping or tilting vendor.

- 1) Never rock or tilt the vendor. It must be kept horizontal for safe operation;
- 2) Never place the vendor in an inclined position such as on a ramp or with all the legs not on the same horizontal surface;
- 3) Do not place the vendor in a mobile environment. For example, if it is not properly fixed in place on the ship;
- 4) Do not place the vendor where it may be hit by a vehicle;
- 5) Do not transport unsafe vendor that still contain products;
- 6) Do not try to lift or move the vendor by hand. Always use equipment with appropriate load

ratings. Please note that the specification weight listed is empty.

### 3.2.5 Other improper conditions

Vendor's improper use or service may cause dangerous situations.

**WARNING:** Do not use inside electrical vendor unless recommended by XY

- 1) Always reinstall all parts removed during maintenance to their original positions;
- 2) Do not make unauthorized changes to any part of the vendor;
- 3) Always replace worn, damaged or unsuitable components;
- 4) Do not use unauthorized parts or use parts for any purpose other than the intended use.

## 4 DEFINITIONS

### 4.1 Terminology and abbreviations

Uniform interpretation of the terms appearing in the text is convenient for understanding.

**VMC** — Vending Machine Controller; Also called main board.

**MDB** — Multi-Drop Bus; Used in the payment system, coin or bill acceptor and wireless cash device etc.

**DTU** — Data Transfer Unit; It can be inserted a SIM card for network data transfer.

**LCD** — Liquid Crystal Display.

**RS232** — Recommended Standard 232.

**PTC** — Positive Temperature Coefficient; In general, we refer to PTC as a PTC thermistor.

**Upper computer** — Hardware refers to Android board; Software refers to Android system and sell APP.

**Lower computer** — Hardware refers to main board; Software refers to main board program.

**GND** — Ground.

## 5 VENDING SYSTEM AND COMPONENTS

### 5.1 Vending operation process

The vending system is comprised of the primary sensor, and the control logic. The primary sensors are attached to opposite ends of the hopper, and infrared light is passed between them.

When a selection is made, the vend motor will begin to run. After several seconds, if no product falls in the hopper (or motor returns to home position). The motor will be stopped, the credit will be maintained and the screen will display “this selection pause.” Customer can choose products from other selection.

When the controller measures a variation in the light intensity during the vend cycle, it recognizes that a product has fallen through the light into the hopper. The controller stops the vend motor (or returns to home position) and removes the credit.

When the vendor is serviced with the door open, the protective lens on the sensors can become fogged up, particularly in hot or humid locations. In these cases, the vendor will failed to vending until the fogging has cleared, usually within a minute after closing the door.

### 5.2 Control board

The control board controls and monitors the vendor, MDB, and DEX systems. The control board is located in the back of the open vendor door, behind the small screen. Also we called main board.

#### 5.2.1 Upgrading program

The software can be upgraded by using a USB flash disk. The U disks is available at Office supply chains or on the internet. Maximum capacity of 16GB. and the storage format need FAT32.

#### 5.2.2 DEX jack(if customized)

The DEX jack is provided for use with external features, such as Data collection

(payment method) with third party devices can also be made here.

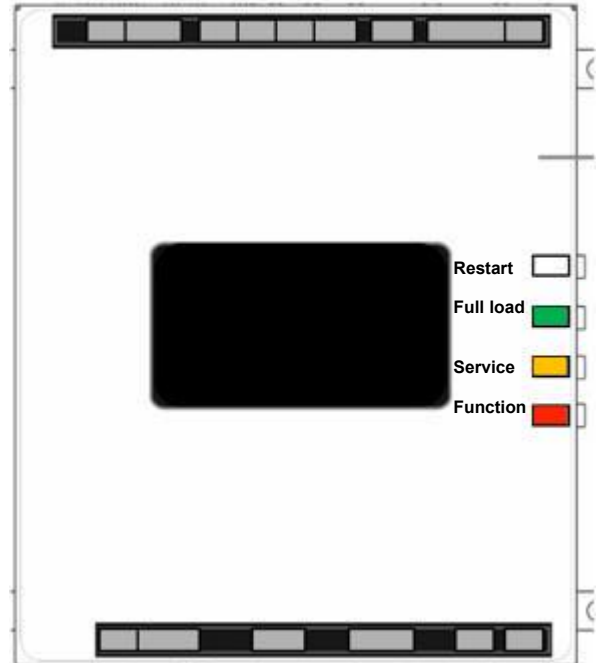


Figure 5.2 Control board

#### 5.2.3 Mode switch

Pressing the service mode button (refer to figure 5.2) allows the user to get in to the controller’s service mode to change settings, access vend data, and check error codes for troubleshooting. Data is displayed on the front display panel, and entered at the front selection panel. Pressing Exit on keyboard, until go back to vend mode.

### 5.3 Vendor sensor system

The drop sensor includes a transmit board and receive board, they are located on both sides of the hopper behind the door, and inside a protective housing.

The receive sensor receives light from the transmit sensor. It contains circuitry to send a signal to the control board. When a product drops through the beams, it causes a change which is interpreted by the controller as a successful vend.

The induction system of our machine is a

patented sales induction system, which can directly detect the product when the product falls. There is an infrared detection plane above the pick-up port, through which the product can sense whether the product has fallen to the pick-up port. Using this technology, the vendor "knows" whether your customer has received the product.

This induction system has several important advantages:

### **5.3.1 Guaranteed delivery**

If the product hangs during the sale, the spiral can be rotated an additional 1/4 turn to try to deliver the product. No need to beat or shake the vending machine to get the undropped product.

### **5.3.2 Instant refund**

If the customer does not receive a product, he can receive a full refund by pressing the coin return, or he can select another product. No more refund requests!

### **5.3.3 Additional benefits**

1) The induction system has an adjustable function, adjusting the sensitivity of the sensor can be used correctly in different environments;

2) The sensor can override blocked or malfunctioning sensors, and still vend. If the drop sensor is disabled, the vendor is shipped successfully by default during purchase;

3) Opening the glass door of the machine will cause condensation to form inside, but it will recover after a few minutes after closing the door and will not affect the detection of the sensor.

## **5.4 Small door**

### **5.4.1 Bill validator & debit card reader locations**

There are two locations that will accept bill validators and/or debit card readers.

### **5.4.2 Multi-coin acceptor location**

The multi-coin acceptor(TW-950) is installed on the door behind the coin chute. The switch handle mate to the keyhole slots on the back of the multi-coin acceptor.

### **5.4.3 Coin box location**

The coin box is located below the multi-coin acceptor, and it is used to hold the coins of the multi-coin acceptor.

### **5.4.4 Hopper location**

The hopper is used to change the coin. One hopper only put one type of coin denomination. It is located under the coin box. Usually two hoppers are installed.

### **5.4.5 Coin mechanism location**

The coin mechanism also call the coin changer. It can replace the multi-coin acceptor, coin box and hopper. Generally, if you use a coin mechanism, you don't need those above.

It is located below the coin chute(③ in the figure 6.2), 3 screws which correspond to slots on the back of the coin changer. Do not adjust these screws;

### **5.4.6 Door switch**

The door switch is mounted on the left, middle of the door, no control uses for the door switch.

### **5.4.7 Display**

The display is located on the front of the door. It serves as the interface for using and programming the machine.

In service mode, it displays the active function and parameter values.

In vend mode, it can display the selection entered, the price of a selected item and the credit accumulated.

The number displayed top left corner is the temperature, the signal icon is displayed top right corner shows the strength of the SIM card signal.

### 5.4.8 Keypad

The keypad is located below the display on the front of the door. A vending selection is made by keying in the number combination that corresponds to the location of an item in the machine.

The keypad is also used to enter data in operation and servicing of the vendor.

### 5.4.9 Coin return switch

The coin return switch is located next to the coin slot. Stirring the coin return switch will release bent or irregular coins that are not accepted by the changer. If the machine fails to vend a selection that has been made, pressing the "Change" key will return the full credit. If the "Force Vend" option is disabled, it can also return the full credit before a selection is made. If the "Bill Changer" option is enabled, the coin return will return change for bills inserted in the bill validator.

### 5.5 Tray rail

The rails are located inside the cabinet and are used to support the trays. The rails are adjustable up and down in 20mm every step.

### 5.6 Tray

Two types of motors may be used with this vendor. The configuration of the machine will be different if all of one is used, or if there is a mix.

The vend motors are snapped into mounting holes on the back of each tray. The motor is driven by DC 24V through a harness from the control board.

#### 5.6.1 Motor

The vending machine motor has a white plastic casing. Two single motor couplings can be replaced with a dual motor. If where a dual motor is used, you can replace it with two single motors and use original springs.

Coupled motors will always stop at the home position.

**Note:** When in any Mode, We can manually adjust the home position of the spring.

#### 5.6.2 Spring

There are dozens of sizes of springs available, and each size has several pitches. The number of products can be determined by counting the number of pitches of springs (**Confirmation On Order**).

#### 5.6.3 Divider

The dividers separate product columns on the tray. On snack trays, 2 horizontal slots in the divider allow for the installation of a candy pusher. To remove the divider, push rearward and lift. To install, insert the rear tab in the desired slot, push rearward and then down. Make sure the locking tabs.

On the bottom have engaged their respective slots and pull forward. Bottle tray supporting plate are held in place with a screw.

### 5.7 Electrical control box

The electrical(power) control box is located behind the door. It's on the bottom floor of the machine.

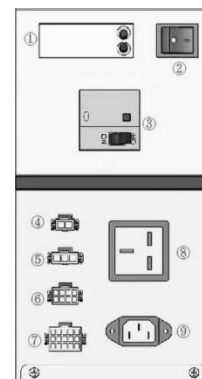


Figure 5.7 Electrical control box

#### 5.7.1 Temperature control board

The temperature control board (① in the figure 5.7) is used to control the refrigerator's temperature.

### 5.7.2 Power switch

The machine power switch is blue (③ in the figure 5.7) and located on the middle of box. The power switch is used to disconnect AC 110V/220V power to the machine. There have two button, test(yellow) and reset(gray).

#### **Press the test button once a month.**

The red switch (② in the figure 5.7) in the upper right corner controls the temperature control board.

**Notice:** *The power switch should be shut off when MDB devices are being connected or disconnected; when the board is being serviced; before any wiring harness is connected or disconnected from the control board or sensors.*

### 5.7.3 Transformer

The transformer is inside the electrical control box. It reduces the input AC voltage to DC 24V for the control board, Lighting and window heater.

### 5.7.4 Plug

There have many input and output plug on the box.

This is the grounding plug (④ in the figure 5.7), it is the yellow-green cable. It connects all the ground wires of the machine.

There have a AC output plug (⑤ in the figure 5.7), its three lines are L, N and GND. The voltage it supplies is the AC voltage input to the machine.

This plug (⑥ in the figure 5.7) is connected to the refrigerator. It supplies power to the compressor, evaporator fan and condenser fan.

This plug (⑦ in the figure 5.7) is connected to the main board. It provides DC 24V to the main board, and the communication between the temperature controller and the main board.

This plug (⑨ in the figure 5.7) is the AC

power input to the machine. This outlet (⑧ in the figure 5.7) outputs the AC power, it same to ④.

### 5.7.5 Ground attachment

The vendor electrical ground is made through the use of grounding studs or screws at the lower back wall of the machine. Earth ground and individual ground wires from the high voltage components are attached in power box.

## 6 VENDOR PREPARATION AND INSTALLATION

Setting up a vendor has been divided into three stages. The step 6.1 confirms power and site suitability. The step 6.2 vendor preparation, includes preparations accomplished in your warehouse. Step 6.3 is accomplished on-site, where the vendor is to be located.

### 6.1 Confirming power

#### 6.1.1 Checking the outlet

We recommended the use of dedicated outlet, and it can supply 15 - 20A current.

Using a volt meter set to AC volts, check the voltage between the Live wire and Neutral wire. Different countries and regions have different voltage:

1) Countries and regions using 120V:

The reading should be between **110 - 126V**. Next, check the voltage between the Neutral wire and the Earth wire. The reading should be less than **5V**.

2) Countries and regions using 220V:

The reading should be between **200 - 240V**. Next, check the voltage between the Neutral wire and the Earth wire. The reading should be less than **5V**.

If your results vary, contact a qualified electrician to correct the outlet wiring before plugging in the vendor.

**Notice:** *Abnormal voltage, reversed polarity or improper grounding maybe cause the vendor to malfunction or create hazardous conditions, resulting in possible injury, damage to the vendor, or fire.*

The power cord is supplied with a standard NEMA 3-wire plug. If there are no 3-wire outlets available for powering the vendor, a grounding adapter may be used to convert a 2-wire outlet to accept the 3-wire plug. The adapter must have a ground tab or wire.

**NEVER USE AN EXTENSION CORD  
WITH THE VENDOR**

### 6.2 Vendor preparation

#### 6.2.1 Inspection

Inspect the vendor carefully for shipping damage prior to signing the carrier's delivery receipt. Check for dents on the top or sides of the vendor, bent legs, broken glass, or other damage on the exterior of the machine. Check the interior for components that may have been knocked loose or other damage.

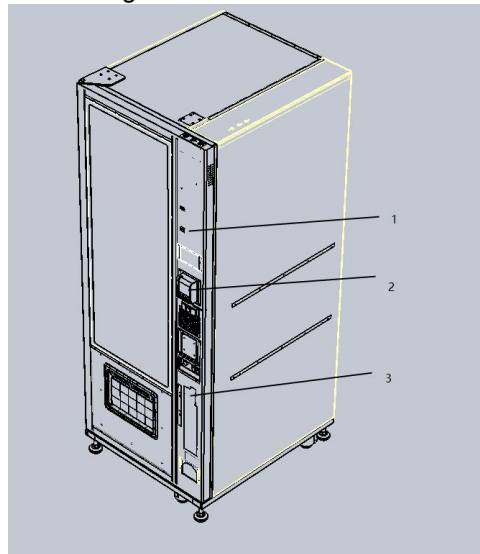


Figure 6.2 Payment device position

#### 6.2.2 Mounting and connecting bill validator and card reader

The XY Vendor will support any NAMA approved Multi-Drop Bus (MDB) bill validator or card reader. Please read the device manufacturer's literature before proceeding.

**Notice:** *Always disconnect power to the control board before servicing.*

- 1) On the inside of the right door have 2 sheet metals (① and ② in the figure 6.2), each sheet metal is fixed by 4 sets of nuts and studs, and it covered by a mounting frame with the 4 studs. Either mounting frame may be used for a bill validator or card reader. The lower mounting position is ADA approved for consumers with disabilities;
- 2) Remove the 4 nuts and spacers, and remove

the sheet metal. Then fixed the mounting frame with the 4 studs;

3) Refer to the manufacturer's literature for instructions on accessing the mounting holes in your device. Place the mounting holes over the studs and reinstall the nuts. Some device may require spacers;

4) Connect the wiring harness to the MDB harness from the control board. If two devices are installed, connect the second device to the bill validator;

5) If a coin mechanism has been installed, disconnect it from the control board MDB harness and connect it to the bill validator or second device if installed;

6) Reconnect power to the control board.

### 6.2.3 Mounting and connecting coin mechanism

The coin mechanism also call the coin changer. The XY Vendor will support multiple manufacturers of coin mechanism. The primary communication port is any NAMA approved Multi-Drop Bus (MDB) port. We can expand the RS232 communication port. Please read the coin mechanism manufacturer's literature before proceeding.

**Notice:** Always disconnect power to the control board before servicing.

1) On the inside of the right door, below the coin chute(③ in the figure 6.2), 3 screws which correspond to slots on the back of the coin changer. Do not adjust these screws;

2) Install the changer by placing the large round opening at the bottom of each slot over a screw head. Be careful to hold the wiring harnesses in this area out of the way. Once each of the round openings are over the screw heads, the changer is lowered to engage the narrow portion of the slot with the shank of each screw;

3) Tighten the mounting screws (reference manufacturer's literature);

4) Connect the wiring harness to the bill validator (if applicable) or to the MDB connector from the

control board;

5) Adjust the orange plastic coin chute as required to align the chute with the changer;

6) Reconnect power to the control board.

### 6.2.4 Testing motors

The vendor motors **MUST BE TESTED** after any changes in the position, type or number of motors have been made.

1) Press the service mode switch on the control board (refer to the figure 5.2);

2) Press "888888" go to setting interface. Using the 6key(→) or 8key(↓), scroll the menu to "Selection" => "Selection Test";

3) Enter selection number to test the motor. Motor is moved a circle and back to the home position;

4) Watch the display for missing motors that should be connected. The vendor will not vend from a given selection number when the motor is missing, jammed or has home switch problems;

5) After the motors have been tested, check to make sure all the springs are in the home position. If the end of a spring is not at its right position in the column, pull it out of the motor (within motor spring force), turn it until it is, and release the spring into the motor.

### 6.2.5 Test product loading

Before putting the vendor on location, it is a good idea to determine the placement of products on the trays. Place at least one product in each spring to check for fit.

1) Remove the cardboard spacers and ties securing the trays;

2) Make use of Section 7.3 for spring tray and Section 7.4 for conveyor tray when configuring your vendor to suit your product;

3) Make sure the product can slide in and out of the spring easily. If the product is too tight, it may cause the spring to jam during vending. Place it in a spring with a larger opening. Likewise, if the product is too loose in the spring, it may not vend

properly. (refer to Section 2.3, and 7.3.6 product placement);

4) Make sure there is adequate clearance between the tops of the packages and the trays above when sliding the trays in and out, and when the product is being vended;

5) This is also a good time to set the end position of the spring. Which can make sure the first product is held securely in the spring. To do this, vend a product from each column. The controller stops the spring immediately when the sensor detects a product fall into the hopper. The end position of the spring will automatically be set to the correct position;

6) when a product is vended (refer to Section 5.3 vendor sensor);

7) If desired, the position can be set manually by pulling the spring out of the motor, rotating it, and releasing it will automatic recovery in the motor.

### 6.2.6 Installing price labels

After determining which product to place, you can install the price labels. The labels are shipped in the envelope with this manual.

1) Insert the bottom edge of the label in the lower groove of the extrusion on the front of the tray;

2) Carefully press on the label until it bows enough to snap into the top groove of the extrusion.

### 6.2.7 Setting prices

After product placement and installation of the price labels, set the prices into the vendor.

1) To enter the service mode, press the yellow button on the control board (refer to figure 5.2, 3<sup>rd</sup> button );

2) Press "888888" go to setting interface. Using the 6key(→) or 8key(↓), scroll the menu to "General" => "Price Setting";

3) Press "Enter". And choose one type of selection price:

a. Choose "Individual selection"; setting the price for one selection;

b. Choose "For Entire Tray" ; setting the price for one tray;

c. Choose "For Entire Machine"; setting the price for the each selection.

4) Input the selection/tray number for which you want to set the price. Example,

```
Selection: Master 001 002 ... 080
           Slave  101 102 ... 180
Tray:      Master 00 01 02 03 04 05 06 07 08
           Slave  10 11 12 13 14 15 16 17 18
```

5) Input price to edit or change;

6) Press "Enter" to save the price;

7) The prices as set will be maintained by the vendor even if there is a power failure or if the machine is unplugged. However, the prices will need to be reset if the program chip is changed or if the configuration of motors or trays is changed;

8) Using the "Exit" keys, exit the service mode.

## 6.3 On-site installation

### 6.3.1 Placing the vendor in location

1) Place the vendor within 1.5m of the designated power outlet. The power outlet should be accessible when the vendor is in position, and the ventilation opening in the back of the vendor must be clear of obstructions;

2) For refrigerated models, allow at least 15 - 20cm between the wall and the back of the vendor for air circulation;

3) Make sure the vendor does not block walkways or exits;

4) Do not place the vendor in a location where it can be struck by vehicles;

5) If the left side of the machine is a wall, the opening angle of the glass door cannot be less than 135 degrees. And two door must open wide

enough to allow the trays to be pulled out;

6) The vendor is designed to comply with ADA guidelines for parallel access by people in wheelchairs (side of wheelchair adjacent to front of vendor). Make sure there is adequate room to maneuver a wheelchair into this position in front of the vendor.

### 6.3.2 Leveling the vendor

For safe operation the vendor must be level.

1) On the bottom of the vendor are 4 threaded leveling support feet (refer to the figure 6.3.2) located at the corners of the cabinet;

2) With the door closed and locked, loosen the nuts on top of the leveling support feet.

3) Check the 4 leveling support feet and adjust any foot that is not touching the ground. If the machine has a footmaster wheel, make sure it doesn't touch the ground;

4) Repeat the steps 3) to level the vendor from front to back;

5) After the vendor is level, adjust the nut at the top of the leveling support foot and lock.

**Notice:** *Always Wear gloves - edges may be sharp!  
Always wear eye protection when servicing vendor!*

### 6.3.3 Tools required

Construction: 24# open-end wrench  
or adjustable wrench

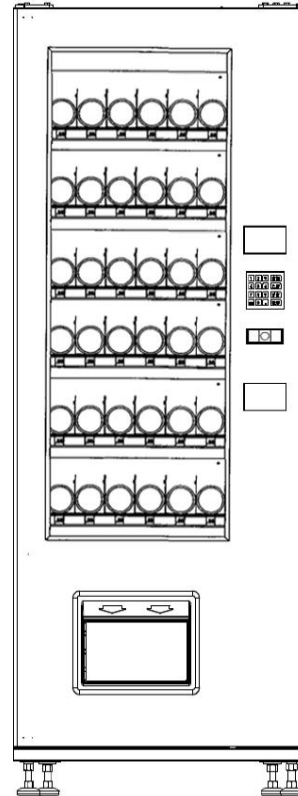


Figure 6.3.2 Leveling the vendor

## 7 TRAY CONFIGURATION AND ADJUSTMENT

The vendor tray height can be configured. Actually, any combination of wide and narrow columns can be provided on the tray. Before changing the configuration of the tray, make sure to order the spare parts you need, such as a new spring, divider or additional motor.

### 7.1 Tray installation

Pick up the tray horizontally, align the left and right pulleys(roller) with the slide rails, and push the pulleys into the slide rails until the tray is fully pushed in. There are raised parts on the left and right sides of the front of the tray to prevent the tray from falling out automatically. Finally, plug in the selection cable, and the installation is complete.

### 7.2 Tray removal

First disconnect the selection cable on the right side, take out the tray horizontally, and complete the removal.

### 7.3 Spring tray

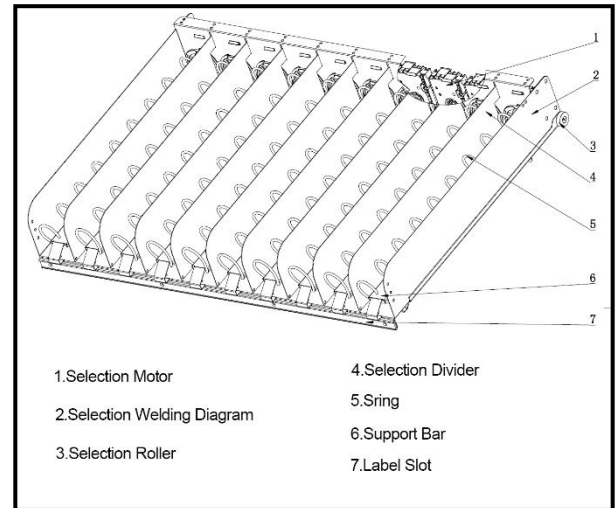
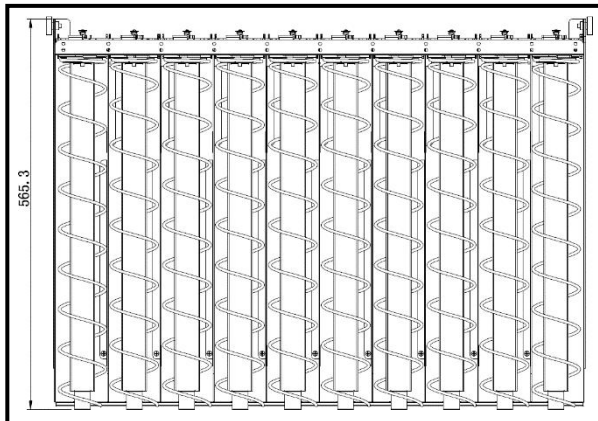
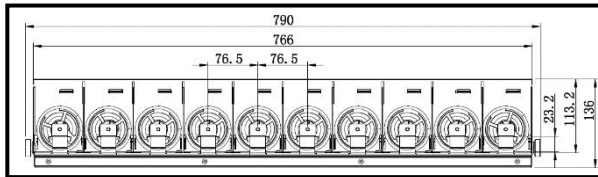


Figure 7.3 spring tray

#### 7.3.1 Replace the divider

- 1) First remove the screw of the divider, and then pick it up from the front, you can take out the divider;
- 2) Reverse the disassembly process to reinstall.

#### 7.3.2 Replace the spring

- 1) Each spring has a adapter, and the spring is stuck on the adapter. If remove the spring from the adapter, first pull the spring directly out, rotate it counterclockwise, and take out the spring;
- 2) Reverse the disassembly process to reinstall.

#### 7.3.3 Replace the adapter

- 1) Hold down the two long clips on the adapter, and then remove;
- 2) Reverse the disassembly process to reinstall.

#### 7.3.4 Replace the motor

- 1) Push out the clip on the front of the motor, then take out the motor, and unplug the motor wire;
- 2) Reverse the disassembly process to reinstall.

### 7.3.5 Replace the support bar

- 1) Loosen the screw at the front end of the support bar, and then take out the support bar;
- 2) Reverse the disassembly process to reinstall

### 7.3.6 Product placement

- 1) Without support bar: Tilt the product backward and put it in the gap of the spring;
- 2) With support bar: The product is placed vertically in the gap of the spring.

### 7.3.7 Spring selection coupling

Two adjacent single-spring selection can be coupled into a double-selection to place larger commodities. Remove the divider between the two single selection, and replace the right spring with a right-spring (the standard is the left-spring), then the motor is installed backwards, and finally the coupling is set in the menu. Spring selection can only be coupled with 2 selection.

## 7.4 Conveyor tray

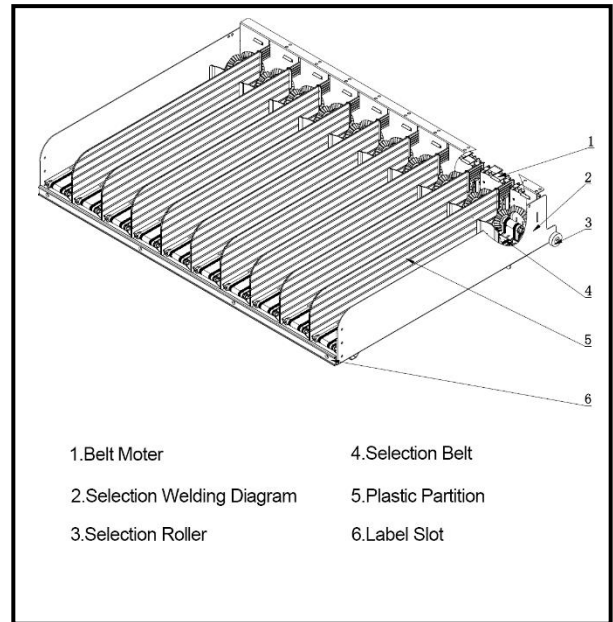
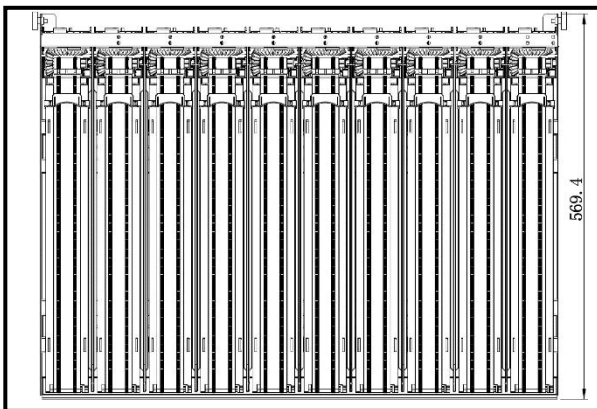
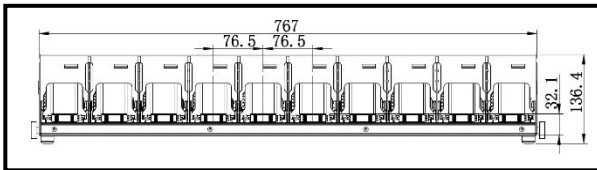


Figure 7.4 Conveyor tray

### 7.4.1 Difference from spring tray

- 1) The method of replacing the motor, divider, and adapter is similar to that of the spring tray;
- 2) Change Belt: There are 4 clips at the bottom of the belt to fix it on the tray. Loosen the 4 clips to take out the belt;
- 3) Product placement: The product is placed vertically on the belt and must be able to be placed on the belt steadily, otherwise the product will fall down with the movement of the belt;
- 4) Belt selection coupling: The method is the same as that of the spring. But the belt selection can be coupled in multiple, and no more than 5 selections can be coupled, which can place super-large products.

## 8 SOFTWARE CONFIGURATION

### 8.1 Starting up

#### 8.1.1 Self-check interface information

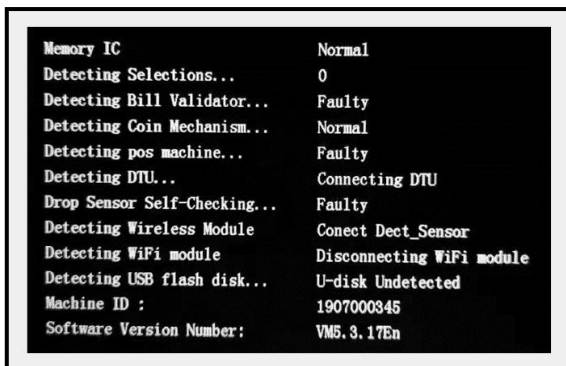


Figure 8.1 Self-check interface

When you power on the machine, you will see a self-check page like figure 8.1 on the LCD.

It means:

- 1) Check whether the main board chip is normal;
- 2) Check the number of selection;
- 3) Check the status of the bill validator, coin mechanism and POS machine;
- 4) Check the status of the DTU, drop sensor, wireless module and WiFi module;
- 5) Check whether the USB flash disk is inserted;
- 6) Check machine ID;
- 7) Check the version of the main board program.

#### 8.1.2 Service mode

When the machine completes self-check, the purchase page is displayed. At this time, press the yellow mode button on the control board to enter the service mode (refer to figure 5.2).

There are two menus, one is the basic menu, the password is “888888”, and the other is the super menu, the password is “125808521”, Press the 2(↑)8(↓)4(←)6(→) key to indicate up,

down, left, and right, as well as cancel and confirm key.

### 8.2 Basic menu (888888)

#### 8.2.1 General setting

- 1) **Bill Change** - Test banknote change;
- 2) **Price Setting** - Set the price of a single selection, each layer, or the whole machine;
- 3) **Inventory Setting** - Set the inventory of a single selection, each layer, or the whole machine;
- 4) **Selection Test** - Test whether the motor of a single selection is operating normally;
- 5) **Light Control** - Set the light working time, only set the master machine.

#### 8.2.2 Payment system

- 1) **Wechat** - Turn on this option to use the WeChat function;
- 2) **Alipay** - Turn on this option to use the Alipay function;
- 3) **Unionpay/Pos** - Connect card reader function need to turn this option;
- 4) **Bill** - Set the money-receiving mode of the banknote device, set the maximum denomination of the banknote device, and test bill change;
- 5) **Coin** - Query and set the number of coins, test coin change.

#### 8.2.3 Selection management

- 1) **Selection Numbers** - Detecting the number of machine selections;
- 2) **Drop Sensor Detecting** - Turn the drop sensor on or off;
- 3) **Selection Configuration** - Check selection Information;

4) **Selection Item ID** - Correspondence between selection and product code;

5) **Selection Test** - Test a single selection;

6) **Selection Cycle Test** - Automatically test the first to last selection;

7) **Belt Detecting Set** - The movement time of the belt cargo lane includes timeout time and stop time. The timeout time refers to the belt movement time before the product is detected (default 6000), and the stop time refers to the belt movement time after the product is detected (The default is 0, if the bottom area of the product is large, you need to set it);

8) **Extra 1/4 Turn Setting** - When the goods are jammed, the motor rotates more than 1/4 circle setting;

9) **Selection Capacity** - Set the selection capacity of a single, each layer, or the whole machine, the capacity must be greater than the inventory number;

10) **Jammed Motor Solution** - If the selection is jammed, you can set "continue service" or "disable this selection".

#### 8.2.4 Sales statistics

1) **Daily Sales** - Query the sales records of the day, press the left and right keys to switch the date;

2) **Monthly Sales** - Query the sales records of the current month, press the left and right keys to switch the month;

3) **Yearly Sales** - Query the sales records of the current year, press the left and right keys to switch the year;

4) **Entire Machine Sales** - Query all transaction records, it will display the total amount, the total number of products, and the number of transactions of the payment type;

5) **Selection Sales Message** - Enter the selection number to query the sales records of a single selection;

6) **Clear Sales Message** - Clear all sales

records;

7) **Clear Security Code** - Set a password for clearing records;

8) **Initial Remote System** - Clear invalid data in the main board.

#### 8.2.5 System setting

1) **User Menu Password** - Set user menu password;

2) **System Time** - Set the main board system time and date;

3) **Volume Setting** - Set the voice level of the voice broadcast, the range is 0-200;

4) **Temperature Controller Setting** - Set the on and off of the temperature controller, set the mode of the temperature controller, cooling mode, heating mode, constant temperature mode, and set the temperature value;

5) **Temperature Controller Status** - Query the status of the temperature controller, such as: the temperature controller is normal, the temperature controller connection fails, the compressor is disconnected, etc;

6) **Compressor Working Period** - Set the compressor working time period, 3 time periods can be set, such as: 10-16, Indicates that the compressor is on from 10:00 to 16:00, and the compressor is off at other times;

7) **Query Driver Board Information** - If the machine is connected to other slave machine, you can query the program version of the slave machine drive board.

#### 8.2.6 Fault diagnosis

1) **Drop Sensor Test** - To test whether the drop sensor is normal, there are automatic and manual tests. During manual testing, you need to shift the sensor with your hands or objects in 5 seconds. The automatic test and manual test are both successful to be considered normal;

2) **Apply License** - When the machine shows that the service is suspended, you need to enter this menu. The customer provides us with a

random code, and we give a verification code(**valid for 1 minute**) to the customer. After inputting, press confirm button;

3) **Bill Validator Diagnosis** - Query whether the bill validator is in normal state and whether it is connected to the main board;

4) **Coin Mechanism Diagnosis** - Query whether the coin mechanism is in normal state and whether it is connected to the main board;

5) **VMC Error Clear** - Clear the error message on the main board;

6) **Clear Jammed Selection** - If there is a item jam fault in the selection, it will be displayed in this option, and the selection can work normally after clearing;

7) **Clear Motor Error** - Sometimes the motor will be abnormal after the product are jammed, and the motor will malfunction. You need to clear the fault information here to work normally;

8) **Clear Extra Turn Error** - If you turn on the function of 1/4 turn of the jam, and then the jam fault occurs, you need to clear it here. Otherwise, the position of the spring will change, which will affect products vend;

9) **Selection Check** - Check whether the selection is normal;

10) **Network Diagnosis** - Check whether the machine is networked and the signal value of the network.

## 8.3 Super menu(125808521)

### 8.3.1 Payment system

1) **Coin System Set** - Choose the right coin system, "coin" or "hopper". Generally choose "coin";

2) **Export System Config** - The configuration information of this machine can be output to USB drive, such as price, selection information, etc;

3) **Import System Config** - After exporting the configuration on the machine to a USB flash

drive, insert the USB flash drive into another machine and import it, you can synchronize the configuration on the machine;

4) **Set LOGO** - You can choose to display or not display the company logo.

### 8.3.2 Selection management

1) **Selection Mode** - Three modes can be selected, "coil" mode, "conveyor" mode, "hook mode", select mode in which the machine is actually used;

2) **Selection Capacity** - Same as 8.2.3 - 9);

3) **Motor AD** - Motor threshold, the critical value of motor rotation, the range is 1 - 250, default is 100;

4) **Selection Coupling** - Two or more single selection are coupled to make it possible to place large product. First select the first selection that needs to be coupled, and then select the coupling quantity, such as: 011 and 012 coupling, enter 011 first, and then enter 2, it is ok;

5) **Clear Selection Coupling** - Clear the coupling of all settings on the machine;

6) **Coupling Synchronization Time** - When the spring selection is coupled, the two selection motors will not run synchronously, and a synchronization time needs to be set, the range is 1200 - 2200ms, the default is 1200ms;

7) **Set MotorShort Value** - When the motor reaches a certain value, the main board will display that the motor is short-circuited, the range is 700 - 900, and the default is 820.

### 8.3.3 System setting

1) **Machine ID** - Machine code, each machine has an independent code, 10 digits, set in this menu;

2) **Device Language** - The menu language can be changed, only Chinese and English are supported;

3) **User Menu Password** - Same as 8.2.5 - 1);

4) **System Time** - Same as 8.2.5 - 2);

5) **Delivery Door Close Time** - The delivery of the machine with elevator is automatically opened and closed, and enough time can be set to pick up the goods, the range is 3 - 250, the default is 60s;

6) **Connecting Upper Computer** - If the machine is connected to an Android system, you need to select "Yes" in this option, and the default option is "No";

7) **Connecting Lift** - If the machine has a lifting system, you need to select "Yes" in this option, and the default option is "No";

8) **Drop Sensor Frequency Adjustment** - Adjust the frequency of the drop sensor, automatic adjustment, only used for machines with lifting system;

9) **Drop Sensor Sensitivity** - Adjust the sensitivity of the drop sensor, the range is 15-30, the lower the value, the more sensitive it is, only used for machines with lifting systems.

#### 8.3.4 Fault diagnosis

1) **Drop Sensor Test** - Same as 8.2.6 - 1);

2) **Apply License** - Same as 8.2.6 - 2);

3) **Bill Validator Diagnosis** - Same as 8.2.6 - 3);

4) **Coin Mechanism Diagnosis** - Same as 8.2.6 - 4);

5) **Clear Jammed Selection** - Same as 8.2.6 - 6);

6) **Clear Motor Error** - Same as 8.2.6 - 7);

7) **Connecting Temperature Controller** - The temperature and parameters can be set through the menu after the temperature controller is connected to the main board. This option can choose whether to connect or not. The default is "Yes";

8) **Temperature Controller Parameter** - Temperature controller parameter settings, such as: temperature lowest limit, temperature highest limit, defrosting period, defrosting time, etc;

9) **DTU Initialization** - DTU is a networking module, sometimes DTU may not be able to communicate with the main board normally, and DTU needs to be initialized at this time;

10) **Restore Factory** - Restore the factory settings of the main board, and then need to reset the parameters, etc.

## 9 TROUBLESHOOTING

### 9.1 Out of service

Some errors will disable the vendor, when this happens, a "Out of service" message will be displayed. To allow the vendor to use it again, you need to press the yellow menu button on the motherboard. Input the "888888" or "125808521" password, then in the "Fault Diagnosis" menu, find "Apply Licence", input the verification code and select the "confirm" button, then the machine is working.

### 9.2 Machine error display

Error Display	Error Reason	Solution
This selection No stock	No inventory quantity is set in the Main board	Set the inventory number in the menu, refer to 8.2.1 - 3)
This selection Pause	There is a selection jammed failure	Clear the jammed fault or motor fault, refer to 8.2.6 - 6) to 8)
The motor does not exist	The motor is damaged or the motor wire is not connected properly	Change the motor or reconnect the cable
Machine memory error	Machine data storage abnormal	Set in the menu, 8.2.4 - 8), password "888888"
Upper computer Communication error	Unused functions are turned on in the menu	Set in the menu, 8.3.3 - 6), choose "No", then power off and restart machine
Delivery door is not closed	Unused functions are turned on in the menu	Set in the menu, 8.3.3 - 7), choose "No", then power off and restart machine

### 9.3 Temperature controller error code display

Error Code	Detailed explanation
EA1	Compressor current is too large (>5A)
EA2	Compressor open circuit (0A)
EA3	Evaporator fan current is too large (>0.72A)
EA4	Evaporator fan open circuit (0A)
EA5	Condenser fan current is too large (>0.54A)
EA6	Condenser fan open circuit (0A)
EA8	The PTC open circuit (0A)
LL	The temperature sensor error
E0	The temperature drops or rises too slowly

## 9.4 Machine trouble shooting chart

*If a replacement parts is necessary , please contact your distributor*

Symptom	Possible Cause	Remedy
No power at the control board	No power from power cord	Check power cord ,output or supply
	The power box is disconnected from the control board or not connected firmly	Check the connection cable between the power box and the control board
	The power box has no DC24V output	Check power box
	Short circuit in other lines	Double check other lines
The screen is black or flickering	The screen failure	Check the screen
	The screen cable is loose	Reconnect the screen cable
Keyboard not working	The keyboard failure	Check the keyboard
	The VMC board failure	Check the VMC board
No product detected	Menu setting is not enabled	Turn on in the menu
	The drop sensor cable is not connected properly	Check the connection cable
	Drop sensor failure	Check the drop sensor

## 9.5 Cooling system troubleshooting

### 1) The refrigeration temperature does not drop

Keep the distance between the machine and the wall above 15 - 20cm, ensure normal ventilation. The dust screen behind the machine should be cleaned up on time.

Check if the refrigerator is working in the “refrigeration mode”, refer to the 8.2.5 - 4). Check whether the copper pipe is cold by hand, and judge whether the refrigeration of the refrigerator is normal. If it is not, the refrigerator is leaking, and new refrigerant needs to be added (please operate by professionals).

### 2) Temperature controller showing “LL”

“LL” is the temperature sensor failure, directly replace the sensor. If it still does not work, replace the temperature controller.

### 3) Refrigerator icing

Check the menu first to check whether the defrost period and time are correct, check whether the two fans in front of the evaporator are rotating. If the fan does not rotate, and the air-conditioning cannot circulate and stay in the refrigerator, the evaporator will cause icing. And then check whether the sensor is normal, if the sensor is abnormal, the compressor will continue to work, and finally the copper pipe of the evaporator will be blocked, which will cause icing.

#### **4) Temperature controller connection fails**

Check whether the temperature controller connection line is connected properly. Check whether the communication address of the temperature controller is correct, E9 parameter 0 represents the master, 1 represents the slave. Finally there is a problem with the temperature controller.

#### **5) Refrigerator water leaks**

Check whether the water outlet of the refrigerator is blocked, whether the water tank is damaged, and whether the air tightness of the machine is good.

**\*\*\* If you encounter other difficult to solve or unseen failures, please contact the vendor\*\*\*  
the vendor will have professional engineers to guide and solve.**

## 10 MAINTENANCE

### 10.1 Cleaning the vendor exterior

Clean the vendor exterior as necessary using mild household cleaners and water. Dampen a cloth or sponge with the cleaning solution and gently wipe clean the exterior.

- 1) Do not use chemicals or solvents. These can damage paint, plastic trim and decals;
- 2) Do not use abrasive cleaners;
- 3) Do not use a water jet;
- 4) Do not let water or cleaning solutions contact electrical or electronic components;
- 5) Clean the glass front inside and out with a good window cleaner.

### 10.2 Cleaning the vendor interior

Clean the vendor interior using mild household cleaners and water. Dampen a cloth or sponge with the cleaning solution and gently wipe the interior surfaces clean.

Some vendors use a door liner made from ABS plastic. This liner will crack if chemical solvents or harsh detergents are used.

- 1) Unplug the vendor from the power socket;
- 2) Open the vendor door;
- 3) Do not use chemicals or solvents. These can damage paint, plastic parts and other parts;
- 4) Do not use abrasive cleaners;
- 5) Do not use a water jet;
- 6) Do not let water or cleaning solutions contact electrical or electronic components;
- 7) Allow to air dry, or place a window fan on the floor in front of the open interior;
- 8) When dry, plug in the vendor.

### 10.3 Utility

A basic software utility is available for main control board. Currently it allows an operator to save/load vendor configurations, and upgrade firmware. Please contact your distributor or XY for more information.

### 10.4 Removal and installation

#### 10.4.1 Tools required

Use this procedure to replace a power cord that are cut, split, otherwise damaged or hazard. A 7mm nut driver, gloves and protective eyewear are required.

#### 10.4.2 Removal vendor

- 1) Move the vendor away from the wall and unplug the power cord from the wall outlet;
- 2) Put the power cord in the protective slot at the back of the vendor (refer to the figure 10.4.2);
- 3) The wire retracts into the vendor.

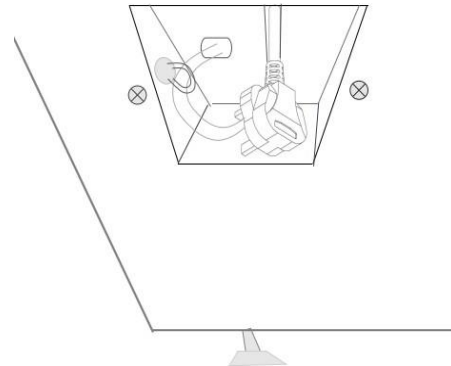


Figure 10.4.2 Power cord and protective slot

#### 10.4.3 Installation vendor

Plug the new power cord into the power outlet.

- 1) Plug the power cord into the power outlet. The power should come on in the vendor;
- 2) If there is no power, check the power outlet at the wall. If there is power at the outlet check for

power at the plug end of the power cord;

3) If everything is operational return the vendor to its position next to the wall

### **10.5 Storing the vendor**

If the vendor is to be stored without power for several days or longer, use the following instructions. These instructions are similar to those used to store any refrigerator.

1) Unplug the vendor from the power outlet. Roll up the power cord and put it in the protective slot(refer to the figure 10.4.2).

2) Remove any products from the vendor;

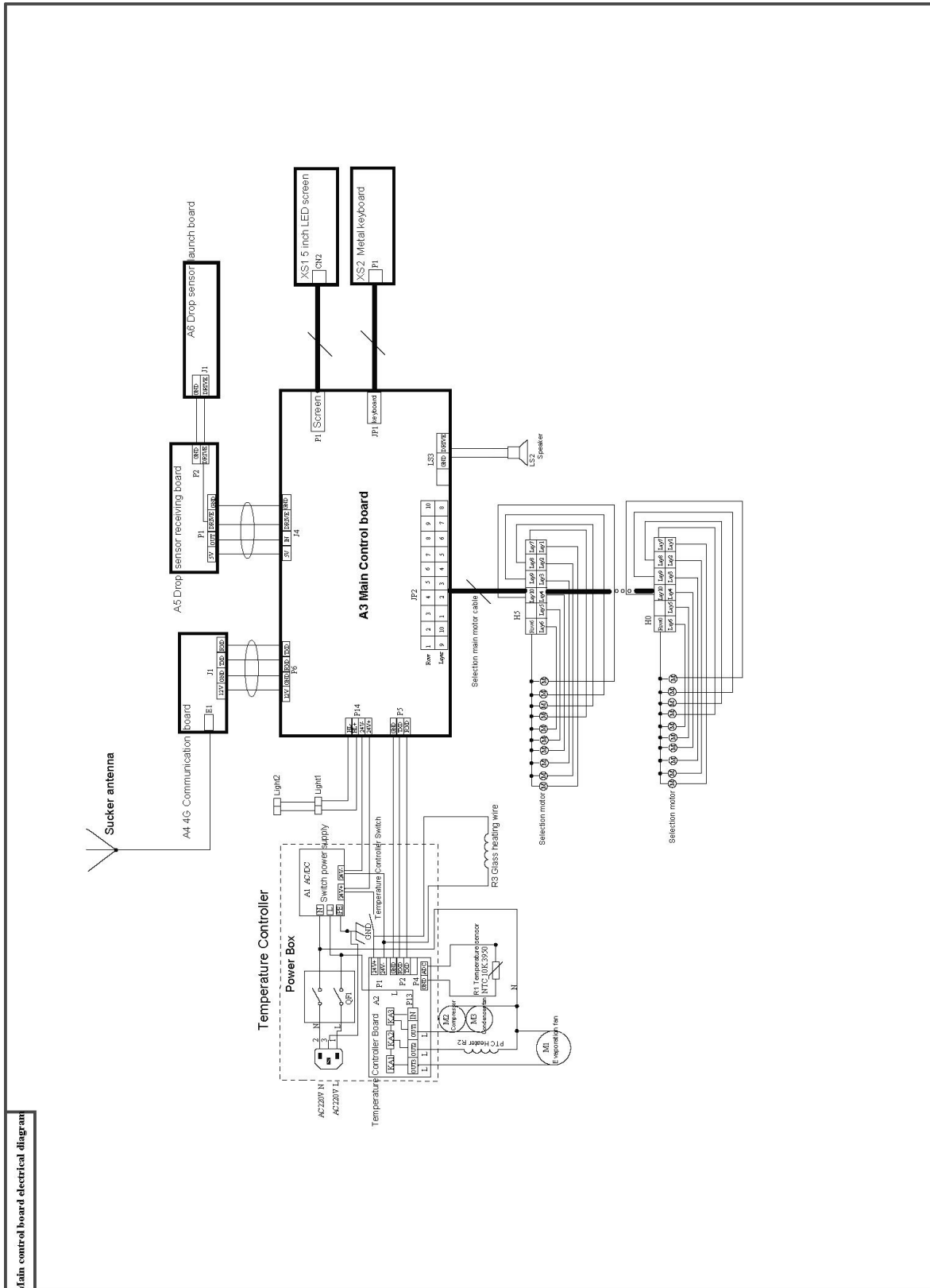
3) Clean the inside of the vendor using the general directions given in Section 10.1 and 10.2;

4) Leave the vendor door open for a day to allow the interior to thoroughly dry;

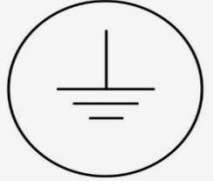


5) Close the vendor door and lock it to protect the interior;

6) Cover with the tarpaulin, then put the vendor in the warehouse.

# 11 WIRING DIAGRAM



## 12 LABEL IDENTIFICATION

Label image	Label Name	Label Purpose
	Grounding mark	<ul style="list-style-type: none"> <li>● Prevent electric shock: clearly mark the location and status of the grounding device,</li> <li>● Discharge fault current: the grounding mark indicates that the current will be introduced into the earth through the grounding path.</li> </ul>
<p>For the life span of compressor:</p> <ul style="list-style-type: none"> <li>● Do not open and close the machine door too often.</li> <li>● Turn off the compressor while loading the goods.</li> <li>● Close the door immediately after fully loading the machine.</li> </ul>	warning sign 1	<ul style="list-style-type: none"> <li>● Matters needing attention when using the machine</li> </ul>
<p>Warning:</p> <ul style="list-style-type: none"> <li>● Keep a 15-cm distance between the wall and the back of machine for heat radiation.</li> <li>● Place the machine to keep it at a level ground.</li> <li>● For longer operational life span, avoid water penetration.</li> </ul>	warning sign 2	<ul style="list-style-type: none"> <li>● Matters needing attention when using the machine</li> </ul>
<p>ID : XXXXXXXXXXX</p>	Machine ID	<ul style="list-style-type: none"> <li>● Machine ID</li> </ul>
	Certificate mark	<ul style="list-style-type: none"> <li>● Production responsibility: It indicates that the manufacturing company is responsible for product quality. The product has passed internal inspection or third-party inspection before leaving the factory, and meets the preset technical indicators.</li> </ul>
	Serial number identification	<ul style="list-style-type: none"> <li>● Full life cycle management: Record the entire process of production, warehousing, logistics, sales and after-sales service through serial numbers.</li> </ul>

## 13 LIMITED WARRANTY

Hunan Xingyuan Technology Co.,Ltd (XY) warrants this equipment to the Original Purchaser only, for a period of one (1) year from the date of shipment, to be free under normal use and service from defects in material or workmanship, and for one (1) year on the refrigeration unit, electronic control board, and the two sensor boards. The refrigeration unit consists of the compressor, fan motors, relay, and the sealed components of the system. Light bulbs, glass, and painted surfaces are not covered by this warranty.

Should any part prove defective within the warranty period, XY will repair or replace (at its option) the defective component. XY will provide normal ground shipment for parts replaced under warranty. This warranty does not cover the labor or other costs associated with removal and reinstallation of a defective component. All defective components, at the option of XY are to be returned, properly packaged, freight prepaid, to XY or to the authorized dealer or distributor from whom the equipment was purchased for verification of the defect. Prior to returning any parts for replacement the customer is to contact the XY Service Department for return authorization. XY reserves the right to refuse any collect shipment.

This warranty applies only if the equipment has been serviced and maintained in strict accordance with the instructions presented in this service manual and no unauthorized repair, alteration, or disassembly has been done. Any defects caused by improper power source, abuse of the product, accident, alteration, vandalism, improper service techniques, or damage incurred during return shipment due to improper packaging will not be covered by this warranty. Likewise, any equipment that has had the serial number removed, defaced or otherwise altered will not be covered by this warranty.

XY reserves the right to make changes or improvements in its products without notice and without obligation, and without being required to make corresponding changes or improvements in equipment already manufactured or sold.