VENDTRONICS®

OPERATION & SERVICE MANUAL

VC-1100 Series
MDB-120 Select
67107-5 software
120 Volts, 60 HZ
230 Volts, 50 Hz

ONE YEAR LIMITED WARRANTY

Please read this Warranty thoroughly, should you have any questions, please contact your distributor.

This warranty covers all defects in workmanship or materials provided the equipment has been kept in inside/secured locations. It extends only to the original purchaser and you must complete the warranty registration card below. VENDTRONICS makes no warranty or representation, express or implied, with respect to the machine's ability to produce income, revenue or other benefits.

VENDTRONICS will replace or repair any defective part for a period of twelve months after shipment of product from VENDTRONICS. VENDTRONICS does not cover the labor cost of repair or replacement, except in the case of a refrigeration defect when the labor is performed by an approved service technician. Contact your local distributor, providing the model, serial number, a description of the problem and proof of purchase. All service must be performed by an authorized service representative or distributor.

We reserve the right to change or improve the design of any model without assuming any obligations to modify any machine previously manufactured.

This Warranty does not cover :
* Damages from improper installation
* Damages in shipping
* Defects other than manufacturing defects
* Damages from misuse, abuse, accident, lack of proper care and
  Maintenance (see Owner's Manual) or incorrect current or voltage.
* Unauthorized adjustment of the Thermostatic expansion valve.
* Damage from service by other than an authorized Distributor or
  Service Representative.
* Labor, service, transportation, and shipping charges for the removal of defective part(s) and installation of replacement part(s)

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE; AND IS IN LIEU, ALSO, OF ANY CLAIM ARISING IN TORT, INCLUDING NEGLIGENCE AND PRODUCT LIABILITY, WHETHER OR NOT THE CLAIM INVOLVES INJURY TO PERSON OR DAMAGE TO PROPERTY. THE MANUFACTURER'S SOLE RESPONSIBILITY IS TO FURNISH PARTS AND LABOR UNDER CONDITIONS SET OUT ABOVE. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WARRANTY.

Some states do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights and you may also have other rights, which vary, from state to state.

_____
Date Shipped

_____
Serial Number

___VC-1100_____
Model Number

VENDTRONICS LLC
 2765 NIAGARA LANE
 MINNEAPOLIS, MN 55447

763-557-2900

Table of Contents

Table of Contents

PHYSICAL CHARACTERISTICS

- Height: 72 in. / 183 cm.
- Width: 41 in. / 104 cm.
- Depth: 32 1/8 in. / 82 cm.
- Weight: 650 lb
- Construction: Heavy Gauge Steel
- Finish: Powder Coated Paint
- Number of Trays: 5
- Standard / Maximum Selections: 30 / 45
- Standard / Maximum Capacity: 240 / 450
- Available Coil Sizes: 4, 5, 6, 7, 8,10

ENVIRONMENT

- Operating Ambient Temperature: 50°F to 100°F
- Location Environment: Indoors only

HEALTH AND SAFETY PROTECTION (Vending of products is disabled)

- Activation Temperature:
    Frozen Foods: +10°F or higher if more than 15 minutes
    Slack Frozen: +25°F or higher if more than 15 minutes
    Refrigerated: +45°F or higher if more than 5 minutes

ELECTRICAL AND REFRIGERATION REQUIREMENTS

VC1100	Domestic	International
Power Requirements	110 / 120 Vac, 60Hz	220 / 240 Vac, 50 Hz
Amperage Rating	16	6
Control Transformer	½ Amp fuse	3.15 Amp fuse
Lamp Transformer	2 Amp fuse	2 Amp fuse
Heaters	Ground Fault Interrupter	Ground Fault Interrupter
Compressor	½ hp Hermetic	½ hp Hermetic
Refrigerant Charge	1 lb 10 oz R-404A	1lb 10 oz R-507
Evaporator	Forced air, Elec. Defrost	Forced air, Elec. Defrost

LOCATION

Upon receipt of the unit, inspect for any shipping damage and report directly to the carrier. A damage report will be necessary before contacting the factory. Allow the unit to set at room temperature for at least 24 hrs. before operation. The unit should be stored or transported vertical at all times. When relocating the unit, it should not be tipped at extreme angles. If the unit is relocated, it is strongly recommended that a similar 24 hr. non-operating period be observed. If the unit was in an operating mode prior to relocation, the inside of the freezer compartment should be allowed to rise to room temperature and completely dry out before placing back into service.

The back of the unit must be located at least 6 inches from any obstruction to ensure proper airflow in the compressor area. The system requires air to be induced from underneath the vending machine, through the air filter and condensing coil, and expelled out the back of the vending machine.

POWER SUPPLY CONNECTION

CAUTION: DO NOT USE AN EXTENSION CORD

The 110 / 120 Vac unit requires an independent 20-amp earth grounded circuit.
The 220 / 240 Vac unit requires an independent 10-amp earth grounded circuit.

To insure safe operation of the VC1100, the power supply must be a properly grounded and polarized outlet. Before plugging the VC110 into the outlet, test the outlet to confirm it will meet the VC 1100 power requirements. If the power requirements are not met, contact a Licensed Electrician and have any necessary corrections made. After connecting to the wall outlet, open the Service Panel and turn the main power switch on. The display on the front panel should become active after approximately 20 seconds.

Upon placement of the machine on location, the following programming should be setup to insure proper operation of the VC1100. Please verify the unit has reached the desired temperature settings before loading product. All food items used to stock the unit should be frozen when the unit is used in the frozen food or slacked frozen mode of operation.

The temperature may be viewed at any time by pressing the # button on the keypad.

VENDING

Vending operations, such as, setting prices, changing the message on the front display, handling bills, coins, credit, making change, and operating vend motors should be tested before loading product into the machine.

(Refer to pages 14-21 for programming instructions)

HEALTH AND SAFETY RANGE

The function of this system is to provide additional user protection by disabling vending operations, if the air temperature inside the refrigerated space rises above the selected setting for a preset period of time, "PLEASE CALL SERVICE" will be displayed. Proper Health and Safety settings must be set for proper operation.

Frozen Foods:	+10°F or higher if more than 15 minutes
Slack Frozen:	+25°F or higher if more than 15 minutes
Refrigerated:	+45°F or higher if more than 5 minutes

A magnetic switch is located at the top of the service door that will provide an additional 60 minutes whenever the service door is opened, an additional 60 minutes will also be provided whenever a defrost cycle occurs.

(Refer to page 22 for programming instructions)

TEMPERATURE SETTINGS

Temperature settings can be programmed for Degrees Fahrenheit or Degrees Celsius. The Cut-out temperature will turn the Compressor off, and the Cut-In temperature will turn the Compressor on. A minimum 10°F / 18°C difference between Cut-Out and Cut-In is recommended to prevent short cycling and extend the life of the Compressor.

(Refer to page 23 for programming instructions)

DEFROST START TIME

This option is only necessary if the customer would like the machine to defrost at a specific time. Defrost of the Evaporator is initiated every 12 hours of operation. This option allows the user to set the starting point for the first defrost cycle. As an example, if the initial value entered is 09:00, then the first defrost cycle will start nine hours from the moment this value is saved. When a power loss to the Control Board has occurred, 12 hours of operation will be resumed from the moment power was restored, before defrosting.

(Refer to page 24 for programming instructions)

REFRIGERATION SYSTEM

The system is comprised of an Evaporator, Condensing Unit, and Electronic Control System. The Evaporator removes heat from the air in a refrigerated space and transfers the heat to the liquid Refrigerant. The liquid Refrigerant evaporates and is pumped out by the Compressor through the larger diameter tubing. The Compressor pumps the low-pressure vapor into the Condensing Coil where it gets rid of the heat and condenses into a high-pressure liquid. The high-pressure liquid travels through the smaller diameter tubing to the T.E.V. (Thermostatic Expansion Valve). The T.E.V. controls the amount of refrigerant supplied to the Evaporator, and the cycle is repeated.

The System Control Board regulates all refrigeration functions, and can be adjusted by entering the service mode and inputting the desired Cut-In / Cut-Out temperature settings. In the event of a Control Board failure, the Refrigeration system will continue to run, and will not shut off until the Control Board is repaired or replaced. **The freezer temperature can be viewed at any time by pressing the "#" symbol on the keypad.**

CONDENSING UNIT

The VC1100 uses a ½ hp Tecumseh Condensing Unit. It is located in the rear of the unit and is mounted to the base of the cabinet. It consists of a Compressor, Condensing Coil, Fan, Liquid Receiver, Starting Relay, Start Capacitor, Run capacitor, and a Thermal Overload Protection Device. Two service ports are provided for a Qualified Service Technician to diagnose and repair the Refrigeration System.

EVAPORATOR

The VC1100 uses a 1600 BTU, Low Temperature, Forced Air, and Electric Defrost Evaporator. It consists of an Evaporating Coil, Two Evaporator Fans, a Heating Element, Fan Control Thermostat, Defrost Termination Thermostat, and a 1/4 ton Thermostatic Expansion Valve. It is located inside the refrigerated space at the top. A Magnetic Switch is mounted in the service compartment for shutting the fans off whenever the Freezer door is opened.

CAUTION:
RUNNING THE MACHINE FOR AN EXTENDED PERIOD OF TIME WITH THE FREEZER DOOR OPEN MAY DAMAGE THE COMPRESSOR!

WARNING:
UNAUTHORIZED ADJUSTMENT OF THE THERMOSTATIC EXPANSION VALVE WILL VOID THE WARRANTY!

REFRIGERATION CONTROL SYSTEM

       The following sequence describes a typical Refrigeration Control cycle.

1. The air temperature inside the refrigerated space cools down to the Cut-Out setting.
2. The Control Board receives a signal form the Temperature Sensor.
3. The Control Board energizes a 24Vdc Refrigeration Relay and opens the Normally Closed Contacts.
4. The Compressor shuts off, Evaporator Fans continue to run.
5. The system remains off until the air temperature inside the refrigerated space warms up to the Cut-In setting.
6. The Control Board receives a signal From the Temperature Sensor.
7. The Control Board de-energizes the Refrigeration Relay and closes the Normally Closed Contacts.
8. The Compressor starts up and the cycle is repeated until the unit goes into defrost.

DEFROST SYSTEM

       The Control Board controls the timing of the defrost cycle. The Control Board will simultaneously energize a 24Vdc Defrost Relay, and the Refrigeration relay. When the Defrost Relay is energized, the Normally Closed Contacts open and shut off the Compressor and Evaporator fans, the Normally Open Contacts close and turn the Defrost Heater on.The electric defrost is automatic and will be initiated every 12 hours. The on time will be approximately 21 minutes. During this period the compressor and evaporator fans are turned off. Whenever power to the Control Board is removed, the Refrigeration will run for a full 12 hrs. before a defrost period begins. The Defrost Start Time can be programmed from within the service mode of operation. Frequency and Duration cannot be changed.

SYSTEM CONTROL

       The MDB-120 Selection System Control Board controls the message on the front Display, Bill Acceptor, Coin Changer, Accumulation and Display of Escrow, Issuing Change Payments, Keypad Selection, Vending of product, Price Settings, and Refrigeration Control Functions.

       The Sales Mode is the normal mode of operation. The controller will always default to the sales mode under the absence of other inputs.

IDLE CONDITION

The controller will monitor the Coin Changer and Bill Acceptor for customer input while waiting for a keypad generated interruption. If no action is taken, then the programmable Point of Sales message will be scrolled on the display; provided there are sufficient coins in the coin changer. If an adequate quantity is not detected, the "PLEASE INSERT EXACT MONEY" message will be displayed. When credit has been established the amount of credit will be displayed, otherwise the controller will continue as above until a vend sequence is initiated or a Coin Return request is made. If a Coin Return request is received and the Force Vend feature is disabled, the deposited credit will be returned in a "like coin" fashion.

COIN ACCEPTANCE

The controller will allow acceptance of all coins as long as the accumulated credit is equal to or less than the maximum price of any selection in the current configuration. Coin acceptance will be disabled during all vends, while coins are being paid out and while in the service mode of operation.

FIRST BILL ACCEPTANCE

The first bill will be accepted if the quarter tube or the dime and nickel tubes are adequately filled. When accumulated credit is greater than or equal to the maximum price, additional bill acceptance will be prevented. If the bill acceptor offers escrow and further acceptance is disabled because of the maximum price, the last bill inserted will be kept in the escrow position. If the bill acceptor does not offer escrow, or bill escrow is disabled, the bill will go straight to the bill stacker. The bill will be accepted if the coin tubes total cash amount is greater than or equal to the established credit plus the additional bill value. If credit is established from a card reader, no bills will be accepted.

ADDITIONAL BILL ACCEPTANCE

Additional bills will be accepted if the dime and quarter tubes are sufficiently filled. If the accumulated credit is greater than or equal to the maximum price additional bill acceptance will be disabled. If the bill acceptor offers escrow and further acceptance is disabled because of the maximum price, the last bill inserted will be kept in the escrow position. If the bill acceptor does not offer escrow, or bill escrow is disabled, the bill will go straight to the bill stacker.

VENDING SELECTION

When a letter or number is depressed on the keypad, a beep will sound signifying a valid entry has occurred. After each entry you will have 5 seconds to enter the second letter or number. If there has not been enough credit deposited, the selection's character, number and price will be displayed for approximately 1 second along with three beep tones followed by the "PLEASE INSERT MORE MONEY" message being scrolled one time. Then the credit or the Point of Sales message, if no credit has been established, will be displayed again. If enough credit was deposited (see note #1 below), the selection's character, number and price will be displayed while the controller determines if the exact amount of change can be paid to the customer. If it can not be returned, the vend sequence is halted and the deposited credit is returned in a "like coin" fashion. Also, three beep tones will be issued, the "PLEASE INSERT EXACT MONEY" message will be scrolled one time and the idle condition of the sales mode will be resumed. If the exact amount of change can be returned, then the controller will calculate a check sum of the MIS and pricing information, this will then be compared to the checksum determined when the controller last changed a MIS or price location. If the two checksums are different, the vend will not be allowed, the deposited credit will be returned in a "like coin" fashion and the "PLEASE CALL SERVICE" message will be scrolled on the display until the service mode is entered. If the two check sums are the same, then the selection will be vended and the amount of change will be displayed while it is returned using a "least coins" algorithm. If for some reason the exact amount of change cannot be returned, as much as possible will be paid out and the remaining amount will be retained as credit toward another vend. If the correct change is returned the "THANK YOU" message will be displayed for 0.8 seconds, followed by the idle condition of the sales mode. If a motor is prevented from completing a full cycle, or if after twelve seconds the motor has not yet returned to a home position, the controller will beep three times while the "MAKE ALTERNATE SELECTION" message is scrolled one time followed by the amount of accumulated credit. If the force vend feature is enabled, it will be overridden for approximately 25 seconds after a faulty vend to allow the return of deposited credit.

If a selection not in the configuration or one with a bad motor (see note #2 below) is selected, that selection's character, number and price will be displayed for approximately 1 second. Then the controller will beep three times while the "MAKE ALTERNATE SELECTION" message is displayed one time. The credit or Point of Sales message will be displayed again following the above message.

Note #1: An item price of $0.00 is allowed as a valid vend while in the sales mode of operation.
Note #2: A bad motor is defined as a motor location requiring more than 12 seconds before detecting a home position signal or an electrically open motor circuit. Once a bad motor has been detected it can not be vended until it is cleared by performing a free vend selection from within the service mode of operation.
Note #3: If the machine shuts down due to 'Timed Shut Down Intervals' the deposited money will be automatically returned to the customer.
Note #4: If a Promotional item (in response to purchase of another item) failed to be vended the vend is considered good. The failed motor is flagged and displayed in service mode.

TYPICAL FUNCTIONS WITHIN THE SERVICE MODE

To enter the service mode of operation, press the red button on the control board.
To enter the options mode, press the " # " button twice.
To enter the options 2 mode, press the " 0 " button

A	1	2
B	3	4
C	5	6
D	7	8
E	9	0
F	*	#
G	H	J

OPTIONS		OPTIONS 2	
A	Bill escrow	A	
B	Force vend	B	
C	Maximum change limit	C	
D	Set time and date	D	
E	Timed shut down intervals	E	Scrolls forward through advanced options
F	One free product	F	Selects an option to view or edit
G	Promotional vend	G	Scrolls backwards through advanced options
H	Continuous free vend	H	
J	No Function	J	
1	Coin dispensing	1	
2	Motor count	2	
3	Downward configuration	3	
4	Accountability	4	
5	Price setting	5	
6	Free vend selection	6	
7	Free vend row	7	
8	Free vend entire machine	8	
9	Point of sales message	9	
0	Options 2	0	Enter Options 2
*	Language	*	Save
#	options	#	

THE SERVICE MODE OF OPERATIONS

To enter the Service Mode press the red button located on the controller board. The controller automatically returns to the sales mode if no input from the keypad is received in approximately 25 seconds, or if the button is pressed a second time within this period. If credit exists upon entering the service mode, it will be restored when the sales mode is re-established.

ERROR CODES

Upon entering the service mode, a beep will be issued to recognize the transition and diagnostics will be displayed until a function key is pressed. The diagnostics routine will present various error codes relating to the nature of a fault condition

ERROR CODE	ERROR DESCRIPTION
1	Too little motor current (under 20 mA)
	Display shows for example "A1 1"
2	Too much time to complete vend (12 seconds)
	Display shows for example "C5 2"
3	Loss of changer communications
4	NOVRAM checksum
5	Health & Safety Error—TS1

ERROR 1

If any previously configured selection motor has become disconnected, the Control Board will display an Error Code 1 after entering the Service Mode. To clear this Error, enter the service mode and press "3" for configured, or Free Vend the selection. This will only clear the Error Code, it will not fix a broken wire or motor.

ERROR 2

If any selection becomes jammed, the Control Board will display an Error Code 2 after entering the Service Mode. To clear this Error, Free Vend the selection. (ie. 6-C-5)

ERROR 3

If the Coin Changer becomes disconnected from the Control Board, (ie. Broken wire, Faulty Control Board, or Faulty Coin Changer) Error 3 will be displayed. This Error cannot be cleared until the source of the problem is repaired. If the VC1100 uses a Debit Card Reader Without a Coin Changer or Bill Acceptor, Error 3 will always be present and cannot be cleared, This is normal.

A VC1100 that does not have a Coin Changer or a Debit Card Reader cannot access the Sales Mode of Operation. Error 3 cannot be cleared.

ERROR 4

Power surges are the most likely cause of an Error 4 message. A NOVRAM checksum error indicates that "some" configuration information has changed erroneously. Configuration information consists of prices and all option settings including health safety and temperature settings. When the error occurs, the controller does not know what information changed, just that "some" information changed. It could be a single location or all locations. Your customer must go in and manually check all settings to insure the controller will function, as they want it to. This error will be cleared upon exiting the Service Mode of Operation.

ERROR 5

A Health and Safety Error indicates that the air temperature in the refrigerated space has risen above the Health and Safety setting selected by the end user. All vending functions will be disabled and "PLEASE CALL SERVICE " will be displayed. This Error will be cleared upon exiting the Sales Mode of operation.

Frozen Foods:	+10°F or higher if more than 15 minutes
Slack Frozen:	+25°F or higher if more than 15 minutes
Refrigerated:	+45°F or higher if more than 5 minutes

COIN DISPENSING

To dispense a coin from the coin tubes, while in the service mode, press "1". The controller will display "DISPENSE" and wait for one of the following letters.

> A = Most significant coin
> B = Next significant coin
> C = Next significant coin
> D = Least significant coin

The corresponding coins will continue to be paid out until the letter is released. To exit this mode, press "#" or exit the service mode.

MOTOR COUNT

To display the total number of functioning motors, while in the service mode, press "2". The controller will test each motor drive in the current configuration to determine if a valid motor is connected. The message "MOTORS" and the number of motors responding will then be displayed. To exit this mode, press "#" or exit the service mode.

DOWNWARD CONFIGURATION

To remove undesired motor selections from the configuration, while in the service mode, press "3". The controller will reconfigure to the currently functioning motors and display "CONFIGURED". This is the only means of removing defective motors or adding new motors to the configuration without having to go through a power down cycle.

ACCOUNTABILITY

To display the stored accountability, while in the service mode, press "4". The controller will display "ACCOUNTING" and wait for one of the following inputs:

A = Display value of all paid sales since initialization (VA101), which will rollover after $99,999.95

B = Display total bills to the stacker since initialization (no corresponding DEX field), which will rollover after $99,999.00

C = Display total number of products vended since initialization (sum of PA201 fields), which will roll over after 79,999,920

D = Display total number of products vended since the last reset (sum of PA203 fields), which will roll over after 79,999,920.

E = Display "RESET?" and wait for next entry. If "F" is entered reset all re-settable values.

G = Display "FILL COINS" followed by a display showing zero credit. As coins are entered the display will note the total value of the coins. Pressing "#" will exit this mode. This feature will not function if a credit exists from the sales mode.

PRICE SETTING

This option allows the end user to set prices for a single selection, an entire row, or for the entire machine. The sequence for entering values is most significant digit followed by lesser digits. It is not necessary to enter leading zeros and only the first six numbers will be used. The maximum price that can be set depends on the "scale factor" of the attached peripherals; such as, the coin changer, bill acceptor or card reader. If each peripheral has a scale factor of 5 or greater, the maximum price setting is $999.95. Also, the maximum accumulated credit limit would be $1638.40. On the other hand, if any peripheral has a scale factor of 1 then the maximum price setting would be $199.99 with a corresponding maximum accumulated credit limit of $327.68.

Please contact the peripheral's manufacturer for further information on their scale factor setting. To exit this mode <u>before entering a selection</u>, press "#" or exit the service mode.

Single Selection

To set a single selection price, enter the service mode, press "5", the controller will display "SELECTION". Enter the desired selection's letter followed by the number; the current price will be displayed until the desired price is entered. **To save, press " * ".**

Entire Row

To set the price of an entire row of selection motors, enter the service mode, press "5", the controller will display "SELECTION". Enter any selection from the desired row, the current price will be displayed until the desired price is entered **to save, press " # ".**

Entire Machine

To set the price for the entire machine, enter the service mode, press "5", the controller will display "SELECTION". Enter any selection from any row, the current price will be displayed until the desired price is entered **to save, press " H ".**

FREE VEND SELECTION

To free vend a single selection motor, enter the service mode and press "6". The controller will display "SELECTION" at which time you will enter the desired selection's letter followed by the number. These will be displayed with the selection price while a vend cycle is attempted. If the vend is successful the display will go blank. If the vend is not successful the controller will beep three times before going blank.

To exit this mode, before entering a selection, press "#" or exit the service mode.

FREE VEND ROW

To free vend an entire row of selection motors, enter the service mode and press "7". The controller will display "SELECTION" at which time you will enter the letter of the desired row. The controller will display each selection's number and price as the corresponding vend cycle is attempted. If the vend is successful the controller will continue with the next motor. If the vend is not successful the controller will beep three times and continue with the next motor. This will repeat until vends on all motors in the row have been attempted, then the display will go blank.

To exit this mode <u>before entering a row</u>, press "#" or exit the service mode. To cancel this mode after entering a row, press "#" and hold until the current vend is completed.

FREE VEND MACHINE

To free vend the entire machine of selection motors, enter the service mode and press "8". The controller will start at selection K-11 and will count backwards until selection A-1 has completed. The controller will display each selection's number and price as the corresponding vend is attempted. If the vend is successful the controller will continue on with the next motor. If the vend is not successful the controller will beep three times and continue with the next motor. This will repeat until vends on all motors in the machine have been attempted, then the display will go blank.

To exit this mode press "#" and hold until the current vend is completed.

The free vend by selection, row or machine is considered as a test vend (DEC/UCS).

POINT OF SALES MESSAGE

To enter a new point of sales message enter the service mode and press "9". The controller will display "MESSAGE". Using the keypad and the following keypad definitions, enter the new message (this will over write the old message). Menu I is the default menu. To use Menu II you must perform a "SHIFT" (H button on the keypad) key function for each selection. After each keypad entry, from either menu, the keypad will return to Menu I. To save the length of the message the "ENTER" button must be pressed from within the Menu II(press the H button on the keypad twice). If the maximum limit of 55 characters is entered, the message length is automatically saved.

KEYPAD		
A	1	2
B	3	4
C	5	6
D	7	8
E	9	0
F	*	#
G	H	J

MENU I		
A	G	M
B	H	N
C	I	O
D	J	P
E	K	Q
F	L	R
SPACE	SHIFT	BACK SPACE

MENU II		
S	Y	4
T	Z	5
U	0	6
V	1	7
W	2	8
X	3	9
*	ENTER	$

LANGUAGE SELECTION

To select the message language enter the service mode and press "*". The controller will display "LANGUAGE" and wait for the appropriate letter as defined below. After the letter has been depressed, the nationality of the selected language will be displayed. See Appendix 1 for message translations.

A = Italian
B = Dutch
C = Spanish / English
D = Danish
E = English
F = French / English
G = German

VEND OPTIONS

      To program the Vend Options enter the service mode and press "#" twice, the controller will display "OPTIONS". Enter one of the appropriate letters as defined below. The current state of the selected option will be displayed. Pressing the same letter a second time will toggle the various states available.

  A = Bill Escrow
  B = Force vend
  C = Maximum Change
  D = Set Time and Date
  E = Timed Shut Down Intervals
  F = One Free Product
  G = Promotional Vend

BILL ESCROW

      This option will allow the last bill accepted to be returned, provided the bill acceptor is capable of such a feature. To program this option Press the letter the "A", pressing letter "A" again will toggle on/off. To save and exit this mode press "#", or exit the service mode.

FORCE VEND

      This option will force the customer to complete a purchase once they have deposited money of any form. If a vend is attempted and the motor fails, the customer will be allowed to retrieve the credit for up to 25 seconds, regardless of the force vend status. To program this option, press the letter "B", pressing letter "B" again will toggle on/off. To save and exit this mode, press "#", or exit the service mode.

MAXIMUM CHANGE

      This option will prevent change from being returned to the customer until the credit amount is less than or equal to the programmed maximum change limit.To program the maximum change limit, press the letter "C", pressing letter "C" again will toggle on/off and the currently programmed limit will be displayed. This limit may now be modified using the numerical keys. To save, press "*". To cancel an unwanted setting you must exit and re-enter this menu.

SET TIME AND DATE

This option will allow the controller to set the time and date for timed operations. As each category is entered, the display will scroll to the next option.

- **Time**

    To access this option, press the letter "D". The current time of day will be displayed in a 24-hour format as "TIME hh.mm". To enter a new time press the numeric keys, entering the most significant digit followed by lesser digits. It is not necessary to enter leading zeros and only the first four numbers will be used. **To save, press "*"**.

- **Month**

    The current month will be displayed in a numeric format as "MONTH mm".   To enter a new month press the numeric keys, entering the most significant digit followed by lesser digits. It is not necessary to enter leading zeros and only the first two numbers will be used. **To save, press "*"**.

- **Date**

    The current date (1 - 31) will be displayed in a numeric format as " DATE dd". Again, a new date may be entered by pressing the numeric keys, entering the most significant digit followed by lesser digits. It is not necessary to enter leading zeros and only the first two numbers will be used. **To save, press "*"**.

- **Day**

    The current day (1 = Sunday ... 7 = Saturday) will be displayed in a numeric format as " DAY d". As before, enter a new day by pressing the numeric keys. **To save, press "*"**.

- **Year**

    The current year will be displayed in a numeric format as "YEAR yy". A New Year may be selected by pressing the numeric keys and entering the most significant digit first.   It is not necessary to enter leading zeros and only the first two numbers will be used. To save, press "*". To cancel an unwanted setting before saving, press "#" or exit the service mode.

TIMED SHUT DOWN INTERVALS

This option will allow the controller to shut down the entire machine based on four time of day intervals. During these time intervals the display message "VENDING OPERATION TO RESUME AT hh.mm " is scrolled.

To access this option press the "#" key twice followed by the letter "E". The current On/Off state will be displayed. Pressing "E" again will toggle the On/Off state. If this option is currently in a "TIME ON" state from a previous setting, you must toggle it to OFF and then ON again before you are allowed to view or enter new data. To program new start and stop times, press the appropriate numeric keys, remembering to enter the most significant digit followed by lesser digits. It is not necessary to enter leading zeros and only the first four numbers will be used.

After the option is selected the display will read "1STRT hh.mm". Enter a new start time. To save, press "*". The display will continue to "1 STOP hh.mm". Enter a new stop time. To save, press "*". The display will now continue to the daily status as "1 DYxxxxxxx". The 'X's will be either a '0' for off, or a '1 ' for on. The first 'x' will show the status of Sunday, the next Monday, and so on, until Saturday is reached. The daily status may be changed by pressing the "0" or "1" key. Each digit will be rotated in from the left side. It is not necessary to enter leading zeros and only the first seven numbers will be used. To save, press the "*" key. The display will continue by increasing the leading "1" in the above examples to show the next shut down time. When all four intervals have been programmed the controller will return to the service mode. To cancel an unwanted setting before saving, press "#" or exit the service mode.

ONE FREE PRODUCT

This option will allow a free product to be given to the customer at a preprogrammed interval. When enabled, every nth product will be vended at no cost, all accumulated credit will be returned and the message "FREE ON US" will be displayed during the vend process.

To program this option press the letter "F", The current interval will be displayed as "FREE xxx". Setting this interval to '1' provides a free vend at every transaction, '0' disables the option and the maximum valid interval is 255. A new interval may be entered by pressing the numeric keys. Enter the most significant digit followed by lesser digits. It is not necessary to enter leading zeros and only the first three numbers will be used. **To save, press "*"**. To cancel an unwanted setting before saving, press "#" or exit the service mode.

PROMOTIONAL VEND

This option will allow a free promotional product to be given to a customer in response to their purchase of another product. When enabled, purchasing a selection from column one of the two possible promotional rows will allow column two of that same row to vend sequentially.

To program this option press the letter "G" after the "#" key. The current state will be displayed. Pressing "G" again will toggle the On/Off state. When the display shows "ROWS X X", X will represent the promotional rows to be programmed (row A, row B...etc.). If the promotional rows were never previously selected, the X's will show "-" (blank row). New rows may be entered by pressing the alphabetic keys. The first entry will effect the center character and the second will effect the right most character. **To save, press "*"**

CONTINUOUS FREE VEND BY MACHINE

This option will verify that all motors in the machine are functional. To continuously free vend each configured selection of the entire machine, enter the service mode and press the "#" key once, then press the "H" key four consecutive times. The controller will display the selection's number and price as the corresponding vend is attempted. If the vend is successful, the controller will pause momentarily, then continue on with the next motor. If the vend is not successful the controller will stop free vending motors and flash the failed motor's selection number. When all motors have been successfully vended, the controller will pause for 15 seconds and then the cycle will be restarted. To cancel this mode after the sequence has started, press and hold until the "#" key until the current vend is completed. To exit this mode, press "#", or exit the service mode.

ADVANCED OPTIONS

To select and program advanced options enter the service mode and press the "0" key, at which time the display will read "OPTIONS 2". Use the "E" key to scroll forward and the "G" key to scroll backward between the different options. Press the "F" key to select the desired option. The following sections describe the various levels.

RE-SETTABLE ACCOUNTABILITY

This option displays re-settable sales and vend totals for a user selectable range of rows. To access this option, use the "E" or "G" keys to scroll through the OPTIONS 2 menu until "ACCT HSTR" appears on the display—then press the letter "F".

Two choices are now available: "ACCT SETUP" and "HSTR". Pressing "F" when "ACCT SETUP" is displayed allows the user to set the range of rows that will be monitored. The display will show "SR/ER X-Y", where X denotes the starting row and Y the ending row. Once the range is entered, press "*" to save. Pressing "F" when "HSTSR" is displayed will allow the user to view the cash and vend totals. Hit "F" to toggle between fields. To exit this mode press "#".

SHUTDOWN RANGE

This option allows the user to set a range of rows, rather than all rows, to be disabled during the shutdown time period. To access this option, scroll through the menu until "SHTDWN RNG" is displayed and then press "F". The display will now show "SR/ER X-Y" where X denotes the starting row and Y the ending row. Once the ranges are entered, press "*" to save. To exit this mode press "#".

AUTO REINSTATEMENT OF EMPTY / JAMMED SELECTTIONS

This option allows the user to set a range of rows so that every time a product in the range is selected, a vend attempt will be made; even if the previous vend attempt failed. To access this option, "MTRCLR RNG" is displayed and then press "F".

The display will now show "SR/ER X-Y" where X denotes the starting row and Y the ending row. Once the range is entered, press "*" to save. To exit this mode press "#".

HEALTH AND SAFETY RANGE

All health and safety decisions are based on the National Automatic Merchandising Association (NAMA) standard that establishes and governs the three types of temperature ranges relating to the storage of refrigerated foods. The ranges and their maximum temperatures are:

COLD	45 °F (7 °C) or higher if more than 5 minutes
SLACK FROZEN	25 °F (-4 °C) or higher if more than 15 minutes
FROZEN	10 °F (-12 °C) or higher if more than 15 minutes

This option allows the user to set a range of rows to obey health safety requirements, and shut them down accordingly if a rise in cabinet temperature exceeds the selected safety range.

- To access this option, press 0 to enter the options 2 menu, press E or G to scroll until "HLTH ROWS" is displayed and press "F".

- " 1 SENSOR " or " 2 SENSORS " will be displayed to show that the system is configured for 1 or 2 temperature sensor operation. **The VC1100 must be configured for 1 SENSOR operation.** To change the number of sensors used, press "E" or "G". Then press "F" to save the selection and move to the next step.

- "SR/ER X – Y" will be displayed where X denotes the starting row and Y the ending row. Select the A – E rows, press "*" to save, and move to the next step.

- "TS1 COLD" will be displayed. To change this setting between FROZEN, SLACK, and COLD, press "E" or "G". When finished press "F" to save. To exit press "#".

A magnetic switch is located at the top of the service door that will provide an additional 60 minutes when the service door is opened.

Press the red button on the Control Board to enter service mode

key pad	Function	Display
0	Enter options 2 menu	OPTIONS 2
E or G	Scroll (press several times)	HLTH ROWS
F	Enter health rows	2 SENSORS
E or G	Toggle	1 SENSOR
F	Enter 1 sensor row settings	SR/ER X–Y
A,E	Select rows A through E	SR/ER A–E
*	Save row settings	TS1 COLD
E or G	Scroll through SLACK,FROZEN,COLD	TS1 FROZEN
F	Select desired health safety	TS1 FROZEN
#	Exit health rows	

Press the red button on the control board to exit service mode

REFRIGERATION CUT-OUT AND CUT-IN SETTINGS

This option allows the user to set the cut-in and cut-out values for the refrigeration control.

- To access this option, Press "0" to enter the "OPTIONS 2" menu, press "E" "G" several times to scroll until "CUT IN/OUT" appears on the display and press "F".

- Two options are available: "DEGREE C" and "DEGREE F" allowing the user to choose between degrees Celsius and Fahrenheit for displaying the cut-in and cut-out values. The controller will default to "DEGREE C", press "E" OR "G" to change to "DEGREE F". Press "F" to save the desired temperature scale.

- Pressing the "E" or "G" will let the user toggle between "CUTO XXY" and "CUTI XXY". "CUTO" stands for cut-out and "CUTI" for cut-in, XX is the actual value, and Y will be either C for degrees Celsius or F for degree Fahrenheit.

- To change the value of the cut-in or cut-out press "F", a "*" will appear on the display and the user may enter the value through the keypad. To enter a negative temperature, press"#", To save press "*".

    The range for degrees Celsius is –9C to 21C, and -20F to 70F for degrees Fahrenheit. The minimum difference between cut-in and cut-out should be 10 °F / 18°C, this will prevent the unit from short cycling and extend the life of the compressor.

Press the red button on the Control Board to enter service mode

key pad	Function	Display
0	Enter OPTIONS 2 menu	OPTIONS 2
E or G	Scroll (press several times)	CUT IN/OUT
F	Enter cut in / out mode	DEGREE C
E or G	Changes temperature scale	DEGREE F
F	Enter temperature settings mode	CUTO XX F
F	Enter edit mode for cut out setting	CUTO * XX F
1,5	Enter desired cut out temp.	CUTO * 15 F
#	Enter " - " for below zero temp.	CUTO * -15 F
*	Save cut out temp.	CUTO -15 F
E or G	Scroll to cut in	CUT I XX F
F	Enter edit mode for cut in setting	CUT I * XX F
1,0	Enter desired cut in temp.	CUT I * 5 F
#	Enter " - " for below zero temp.	CUT I * -5 F
*	Save cut in temp.	CUT I -5 F

Press the red button on the control board to exit service mode

Defrost Start Time

This option allows the user to set the starting point for the first defrost cycle. As an example, if the initial value entered is 09:00, then the first defrost cycle will start nine hours from the moment this value is saved. Thereafter, defrost cycles will commence every 12 hours and will remain on for approximately 21 minutes. If you reselect this option after saving the new value it will force the start time back to the default value of 12 hours.

- To program the start time, press "0" to enter the OPTIONS 2 menu.
- Press "E" or "G" several times to scroll until "HLTH ROWS" is displayed, then Press the "F" key.
- The display will read "12:00".
- To enter a new value Press the "E" key several times to add half-hour increments, or the "G" key to subtract half-hour increments. If the value passes 24 hours then the display will roll over to "00:00".
- Once you reach the value you want to store, press the "#" key.

   To initiate a defrost cycle, set the start time to "00:00",and press the "#" key. A defrost cycle will start immediately after exiting the service mode.

DEX/UCS Data Retrieval

DEX/UCS data retrieval is only allowed in the "sales mode" of operation. The retrieval device initiates the data retrieval after it has been properly connected to the DEX port. Please see Appendix 2 for a listing of the various records.

VC1100
REFRIGERATION INTERFACE DIAGRAM
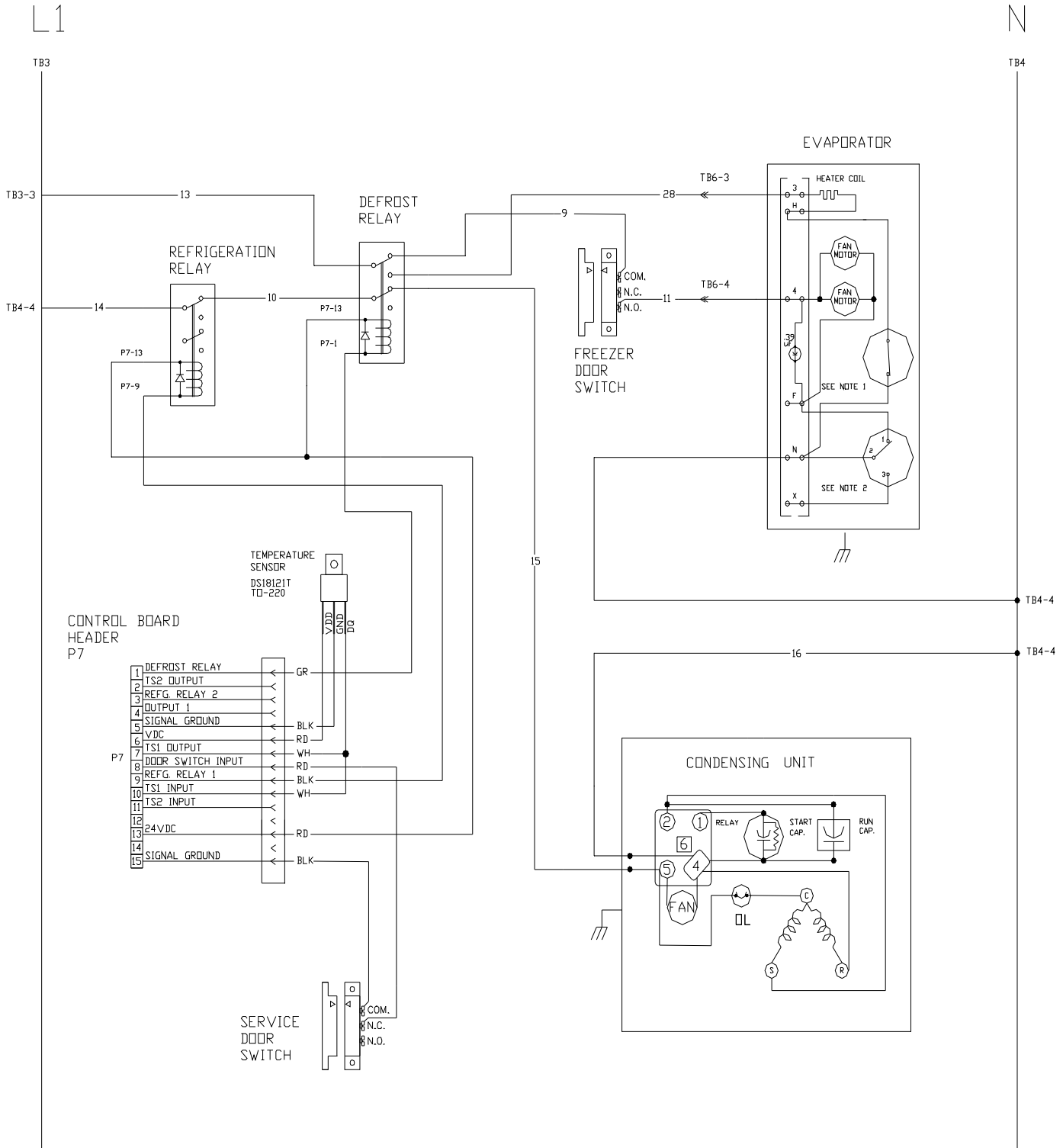
NOTES:

1. SWITCH OPENS ABOVE 75 DEG. F.

2. TERMINALS 2 & 3 SHORTED WHEN COIL IS >55 DEG. F.
   1 & 2 SHORTED WHEN TEMP. FALLS BELOW 35 DEG. F.

VC1100 115Vac/60Hz
HIGH VOLTAGE LADDER DIAGRAM

115VAC/60HZ

L1   N

NOTES:

1. SWITCH OPENS ABOVE 75 DEG. F.

2. TERMINALS 2 & 3 SHORTED WHEN COIL IS >55 DEG. F.
    1 & 2 SHORTED WHEN TEMP. FALLS BELOW 35 DEG. F.
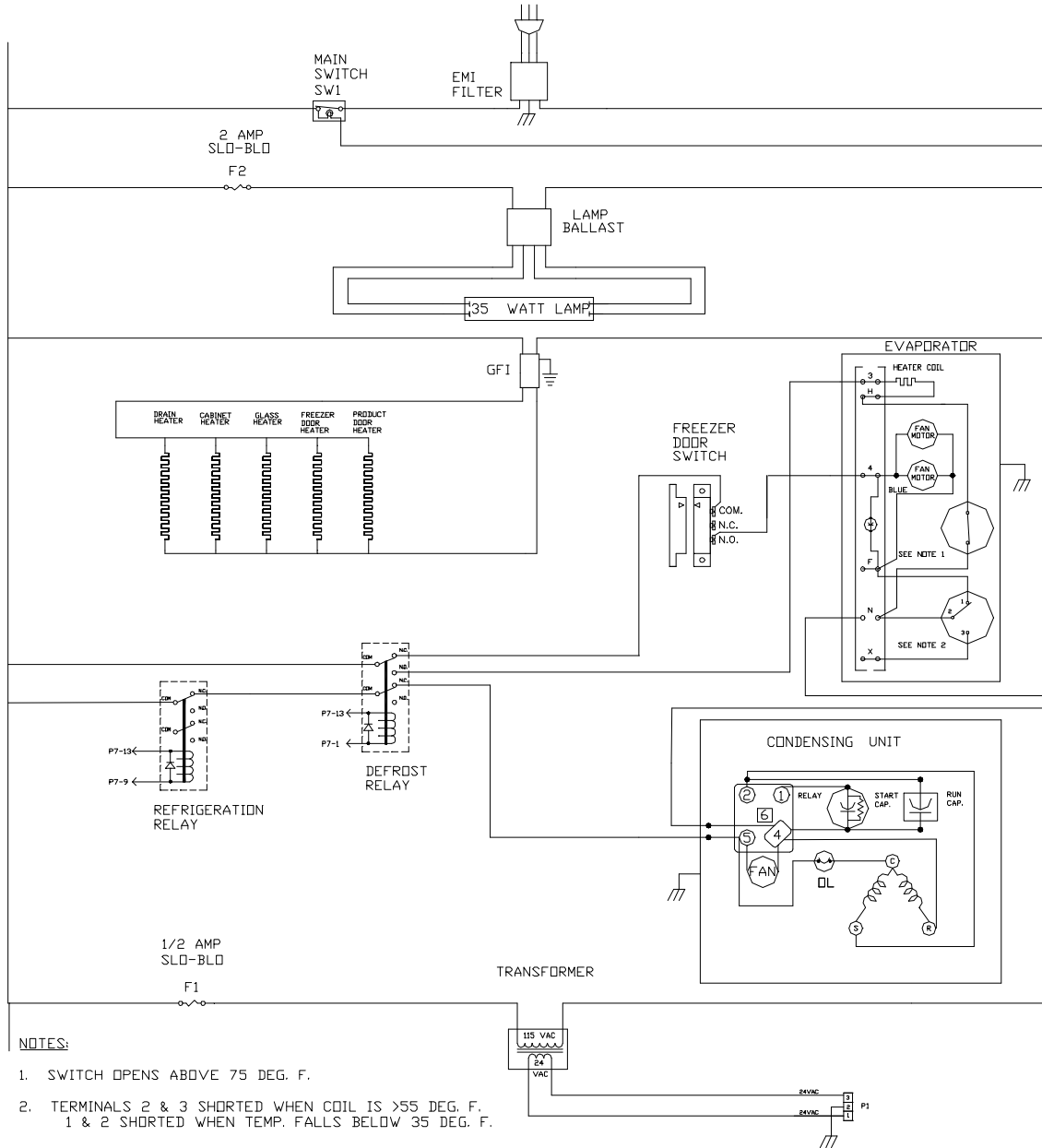
VC1100 230Vac/50Hz
HIGH VOLTAGE LADDER DIAGRAM

230VAC/50HZ

L1

N

MAIN
SWITCH
SW1

EMI
FILTER

②   ①   ⑤

2 AMP
SLO-BLO

③   F2   ④

230 VAC
BALLAST

EVAPORATOR

HEATER COIL

FAN
MOTOR

FAN
MOTOR

BLUE

40 WATT LAMP

COM.
N.C.
N.O.

⑪

SEE NOTE 1

FREEZER
DOOR
SWITCH

SEE NOTE 2

⑬   ⑨
                 ㉘

DEFROST
RELAY

CONDENSING UNIT

REFRIGERATION
RELAY

⑯

② ① RELAY   START
            CAP.

RUN
CAP.

⑭   ⑩

P7-13

P7-1

⑤ ④

FAN   OL

⑮

P7-13

P7-9

F1
3.15 AMP
SLO-BLO

⑥   ⑦

230 Vac
RED

230 Vac
BLACK

⑧

115 Vac

BROWN

⑲

GFI

115 Vac

TRANSFORMER

DRAIN
HEATER

CABINET
HEATER

GLASS
HEATER

FREEZER
DOOR
HEATER

PRODUCT
DOOR
HEATER

⑳

24
VAC

NOTES:

1. SWITCH OPENS ABOVE 75 DEG. F.

2. TERMINALS 2 & 3 SHORTED WHEN COIL
   TEMP. IS GREATER THAN 55 DEG. F.

   TERMINALS 1 & 2 SHORTED WHEN COIL
   TEMP. LESS THAN 35 DEG. F.

㉑

ORANGE   BROWN 24VAC
ORANGE   BROWN 24VAC

3
2
1

P1

VC1100
LOW VOLTAGE SCHEMATIC
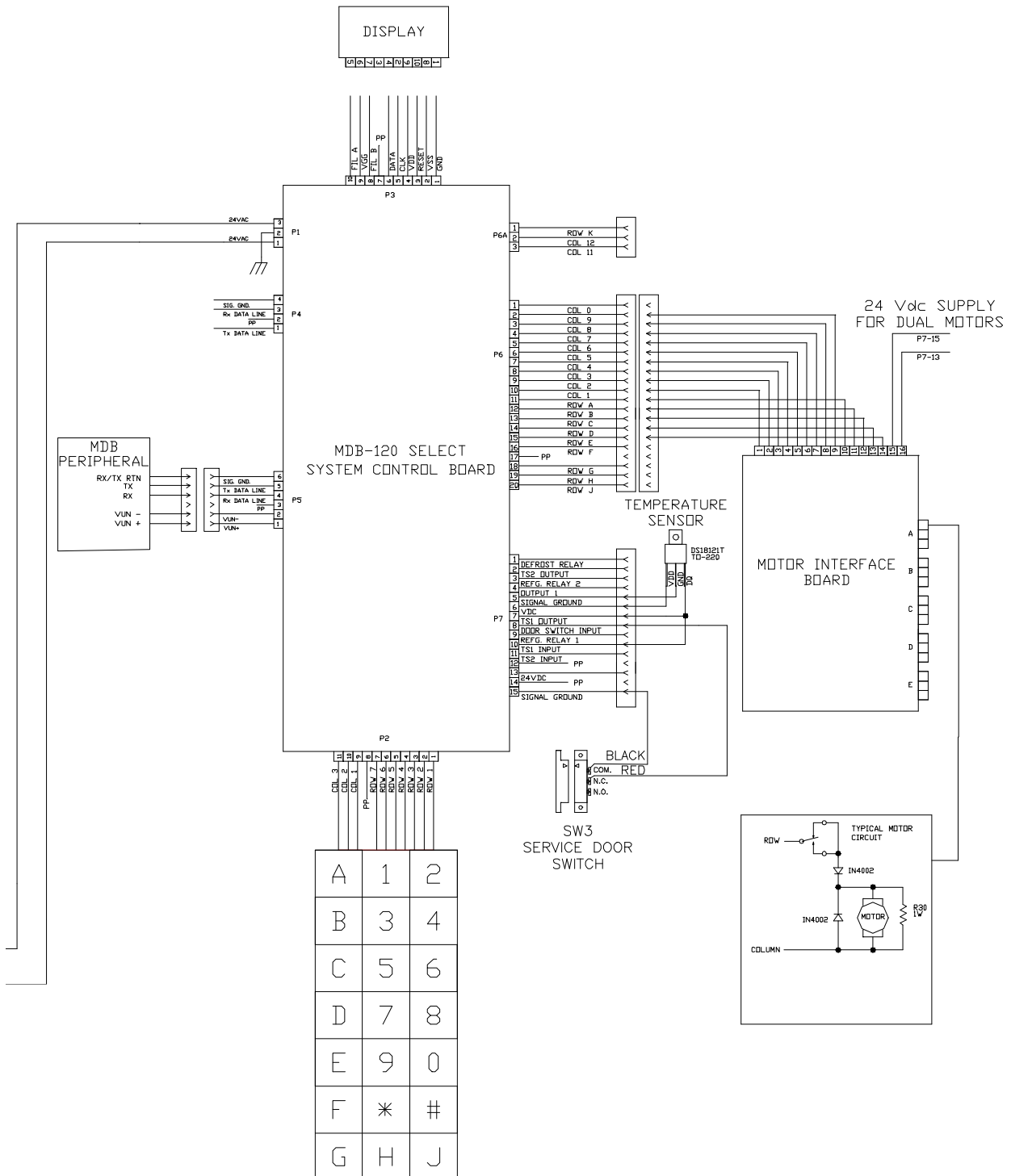
VC1100
POWER PANEL WIRE LOCATIONS
For serial numbers A11836 – A11944
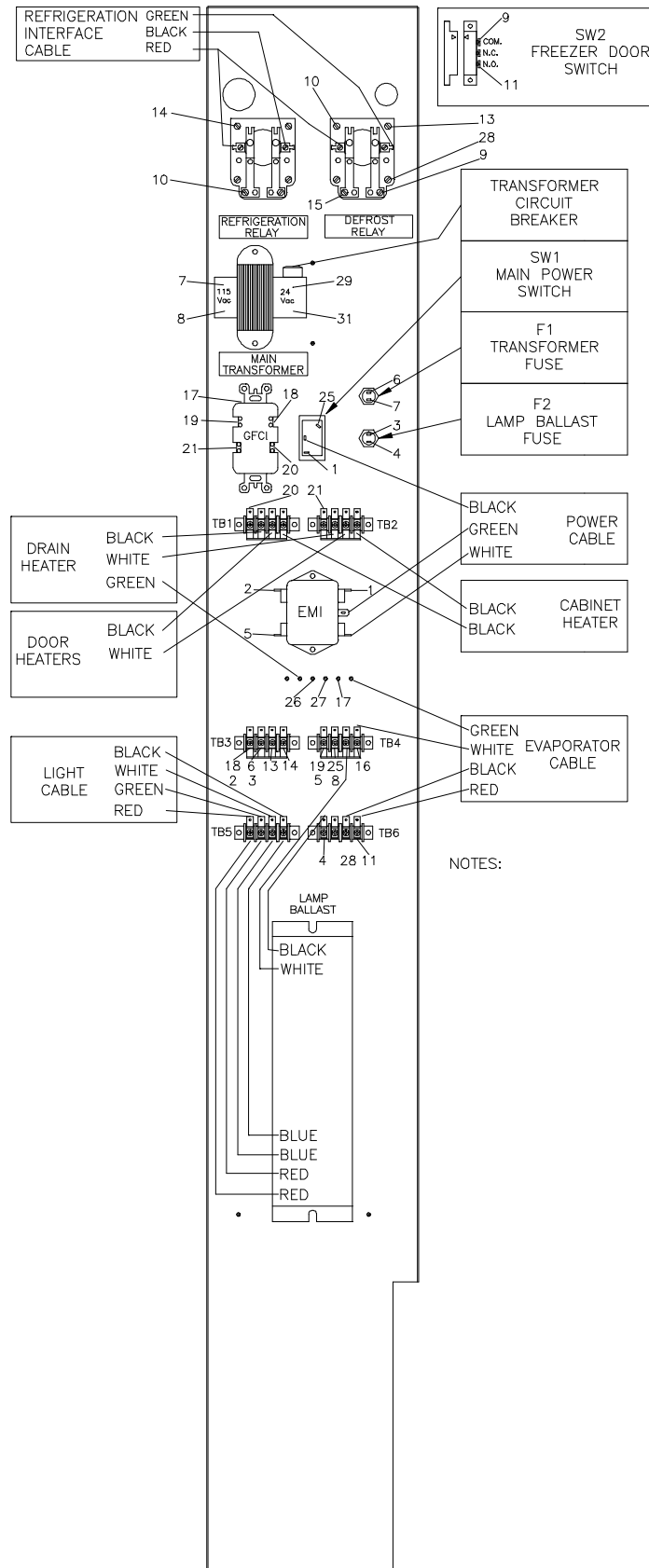
VC1100
POWER PANEL WIRE LOCATIONS
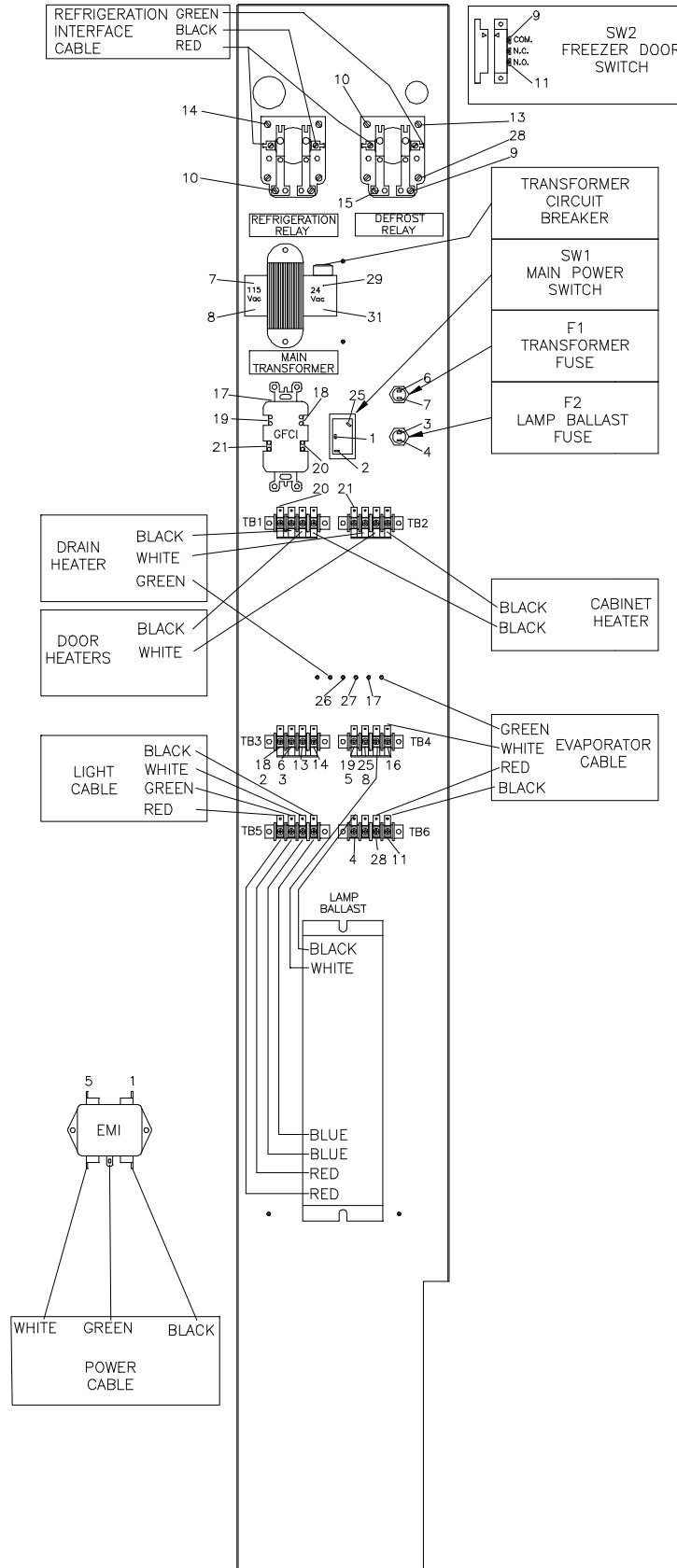
DUAL COIL TRAY WIRING

NOTES:
1. VIEW FACING TRAY BACK.
2. AFTER INSTALLING TRAYS, PRESS THE RED BUTTON ON THE CONTROL
   SELECT NO.3, THE DISPLAY WILL SHOW "CONFIGURED"
   SELECT NO.2, THE CURRENT NUMBER OF SELECTIONS WILL BE DISPLAYE
   THE CONTROL BOARD WILL ONLY RECOGNIZE THE MASTER MOTORS.
   SELECT NO.6 OR NO.7 WHEN TESTING MOTORS.
   NO.8, TEST VEND,DOES NOT FUNCTION ON DUAL MOTOR TRAYS.
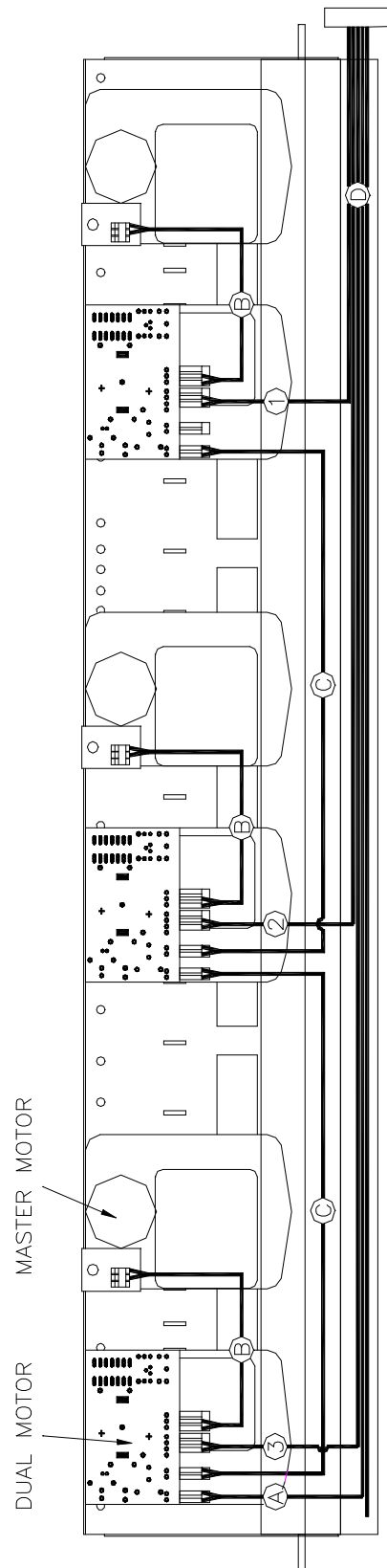
Ⓐ 2 PIN CONNECTOR FROM THE MOTOR HARNESS
Ⓑ 3 PIN JUMPER WIRE
Ⓒ 2 PIN JUMPER WIRE
Ⓓ MOTOR HARNESS
① WIRE MARKER NUMBERS
② WIRE MARKER NUMBERS
③ WIRE MARKER NUMBERS

DUAL TRAY, 3 COLUMN
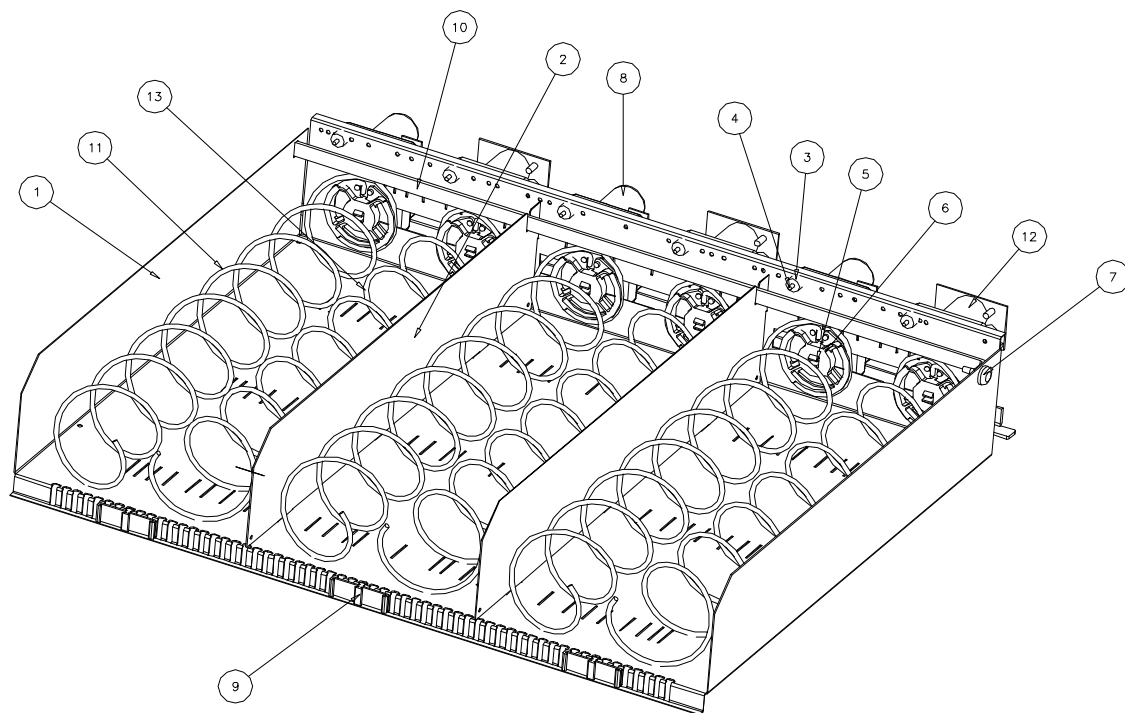
ITEM NO.	DESCRIPTION	PART NO.
	DUAL TRAY ASSEMBLY 3 COLUMN 7 VEND	53000310
1	TRAY	50007500
2	TRAY DIVIDER	30036200
3	MOTORMOUNT RUBBER STOPPERS	10004000
4	CLEVIS PIN,VEND MOTOR MOUNT, ALUMINUM	31005100
5	SHAFT ADAPTER	34004100
6	RETAINER HUB	34004000
7	TRAY DIVIDER LOCK,RUBBER	10005700
8	VEND MOTOR	53001001
9	LABEL HOLDER,PRICE & LOCATION	36003500
10	LOCK,DIVIDER	30040200
11	COIL, LEFT HAND, 7VEND, 3.00 DIAMETER	30010110
12	DUAL VEND MOTOR	53001300
13	COIL, RIGHT HAND, 7 VEND, 3.00 DIAMETER	30010111

STANDARD TRAY, 3 COLUMN
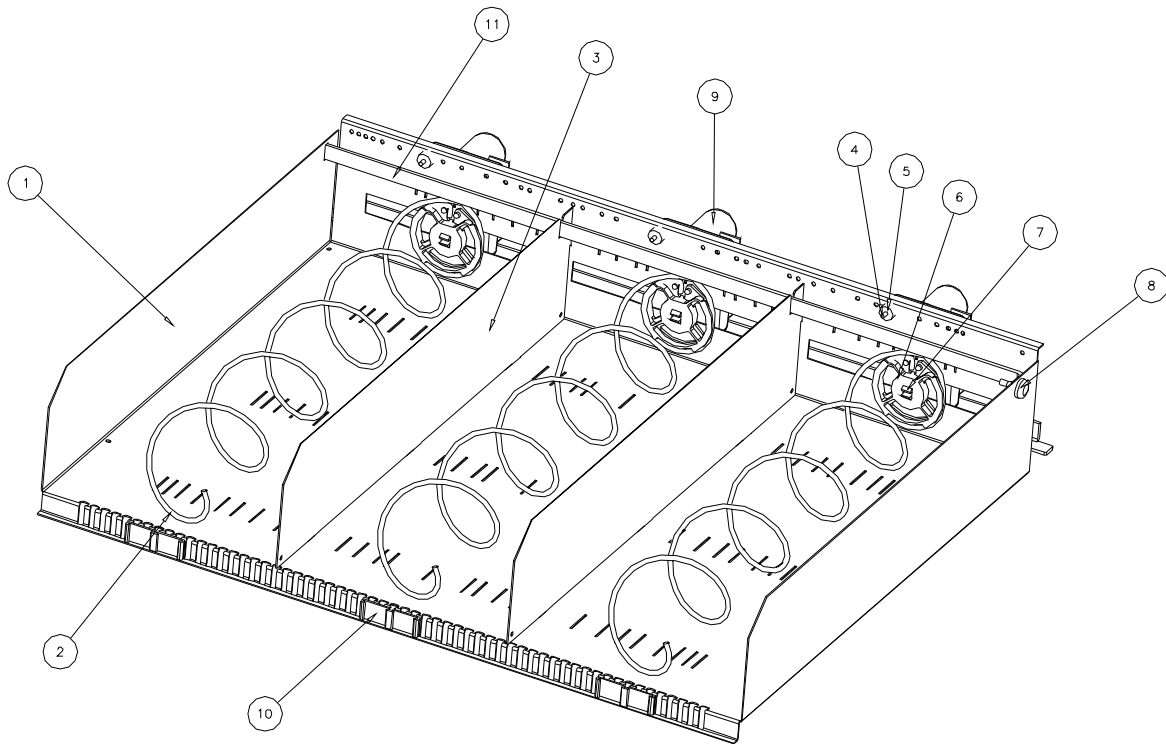
ITEM NO.	DESCRIPTION	PART NO.
	STANDARD TRAY ASSEMBLY, 3 COLUMN ,4 VEND COIL	53000302
1	TRAY	50007500
2	COIL,LEFT HAND,4VEND,3.00DIA	30010104
3	DIVIDER,TRAY,VC1100	30036200
4	PIN,CLEVIS,VEND MOTOR MOUNT, ALUMINUM	31005100
5	MOTORMOUNT,RUBBER STOPPERS	10004000
6	RETAINER HUB,VEND MOTOR	34004000
7	SHAFT ADAPTER,VEND MOTOR	34004100
8	TRAY DIVIDER LOCK,RUBBER	10005700
9	VEND MOTOR	53001001
10	LABEL HOLDER,PRICE & LOCATION	36003500
11	LOCK,DIVIDER	30040200

TRAY OPTIONS

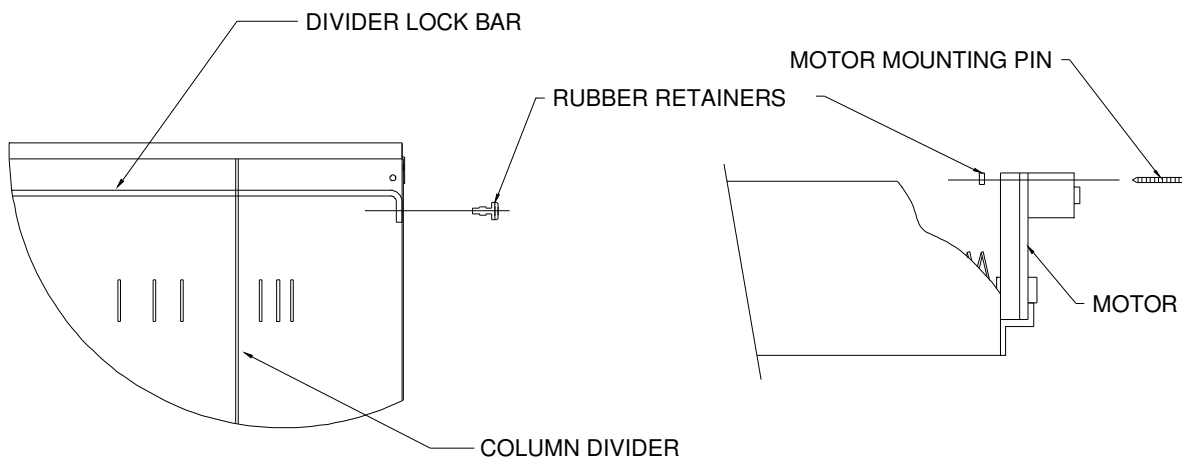| ITEM NO.	DESCRIPTION	PART NO.
1	COIL,LEFT HAND,10VEND,2.50DIA	30010100
2	COIL,LEFT HAND,10VEND,3.00DIA	30010101
3	COIL,LEFT HAND,8VEND,3.00DIA	30010102
4	COIL,LEFT HAND,6VEND,3.00DIA	30010103
5	COIL,LEFT HAND,4VEND,3.00DIA	30010104
6	COIL,RIGHT HAND,8VEND,3.00DIA,DUAL TRAY	30010105
7	COIL,RIGHT HAND,6VEND,3.00DIA,DUAL TRAY	30010106
8	COIL,RIGHT HAND,4VEND,3.00DIA,DUAL TRAY	30010107
9	COIL,LEFT HAND,5VEND,3.00DIA	30010108
10	COIL,LEFT HAND,8VEND,2.50DIA	30010109
11	COIL,LEFT HAND,7VEND,3.00DIA	30010110
12	COIL,RIGHT HAND,7VEND,3.00DIA,DUAL TRAY	30010111
13	COIL,RIGHT HAND,5VEND,3.00DIA,DUAL TRAY	30010112
14	COIL RETAINER SET	51001600
15	RETAINER HUB,VEND MOTOR	34004000
16	SHAFT ADAPTER,VEND MOTOR	34004100
17	CONVERSION KIT,VEND MTR,DUAL,1COL,4COIL	53001400
18	CONVERSION KIT,VEND MTR,DUAL,2COL,4COIL	53001401
19	CONVERSION KIT,VEND MTR,DUAL,3COL,4COIL	53001402
20	CONVERSION KIT,VEND MTR,DUAL,4COL,4COIL	53001403
21	CONVERSION KIT,VEND MTR,DUAL,1COL,6COIL	53001500
22	CONVERSION KIT,VEND MTR,DUAL,2COL,6COIL	53001501
23	CONVERSION KIT,VEND MTR,DUAL,3COL,6COIL	53001502
24	CONVERSION KIT,VEND MTR,DUAL,4COL,6COIL	53001503
25	CONVERSION KIT,VEND MTR,DUAL,1COL,8COIL	53001600
26	CONVERSION KIT,VEND MTR,DUAL,2COL,8COIL	53001601
27	CONVERSION KIT,VEND MTR,DUAL,3COL,8COIL	53001602
28	CONVERSION KIT,VEND MTR,DUAL,4COL,8COIL	53001603
29	CONVERSION KIT,VEND MTR,DUAL,4COL,7COIL	53001900
30	PRODUCT RISER KIT	51002100
31	SCREW,THUMB KNOB,#6-32x1/2	10006100
32	PRODUCT RISER	50005700
33	LINER,TRAY,5.50 INCH,4 COLUMN TRAY	36002900
34	LINER,TRAY,7.75INCH,3 COLUMN TRAY	34001600
35	VEND MOTOR ASSEMBLY	53001001
36	VEND MOTOR WITH COIL RETAINER ASSEMBLY	53001100
37	3 PIN JUMPER WIRE FOR DUAL MOTORS	52001001
38	2 PIN JUMPER WIRE FOR DUAL MOTORS	52001002
39	PRODUCT PUSHER,COIL,LARGE,BLACK	14000102
40	LABEL,TRAY,PROD PRICING,WHITE	41002700
41	LABEL,TRAY,PRODUCT LOCATION,A1-K9,BLACK	41002200
42	LABEL,TRAY,PROD PRICING,BLACK	41002300

PRODUCT TRAY

Tray Adjustment

Each tray has column divider slots that are numbered to provide an even number of spaces across the width of the tray. You may position a motor anywhere deemed necessary to accommodate various package shapes. Motors can be added, removed or re-positioned by following the below procedure.

1. To move a motor to a new position, remove the rubber retainers from the motor mounting pin and from the column divider locking bar. Remove the appropriate column divider and move the motor to its new location, insert the mounting pin, reinstall the column divider locking bar and re-apply rubber retainers.

2. To remove motors follow step 1 and disconnect the connector located at the back of the motor, disengage the coil retainer from the motor by pulling straight outward on the front of the coil.

3. When installing additional motors attach the next numbered connector from the spare connectors located at the back of the tray.

4. After adjusting trays, press the red button on the control board, then press number 3. This will remove any motors that were previously configured in the control board as well as add new motors to the configuration.

5. Press number 2 and the total number of selections will be displayed.

CAUTION:
Do not pull on the wires to remove the connector from the mating plug.
Grip the sides of the connector.

DIVIDER LOCK BAR

MOTOR MOUNTING PIN

RUBBER RETAINERS

MOTOR

COLUMN DIVIDER
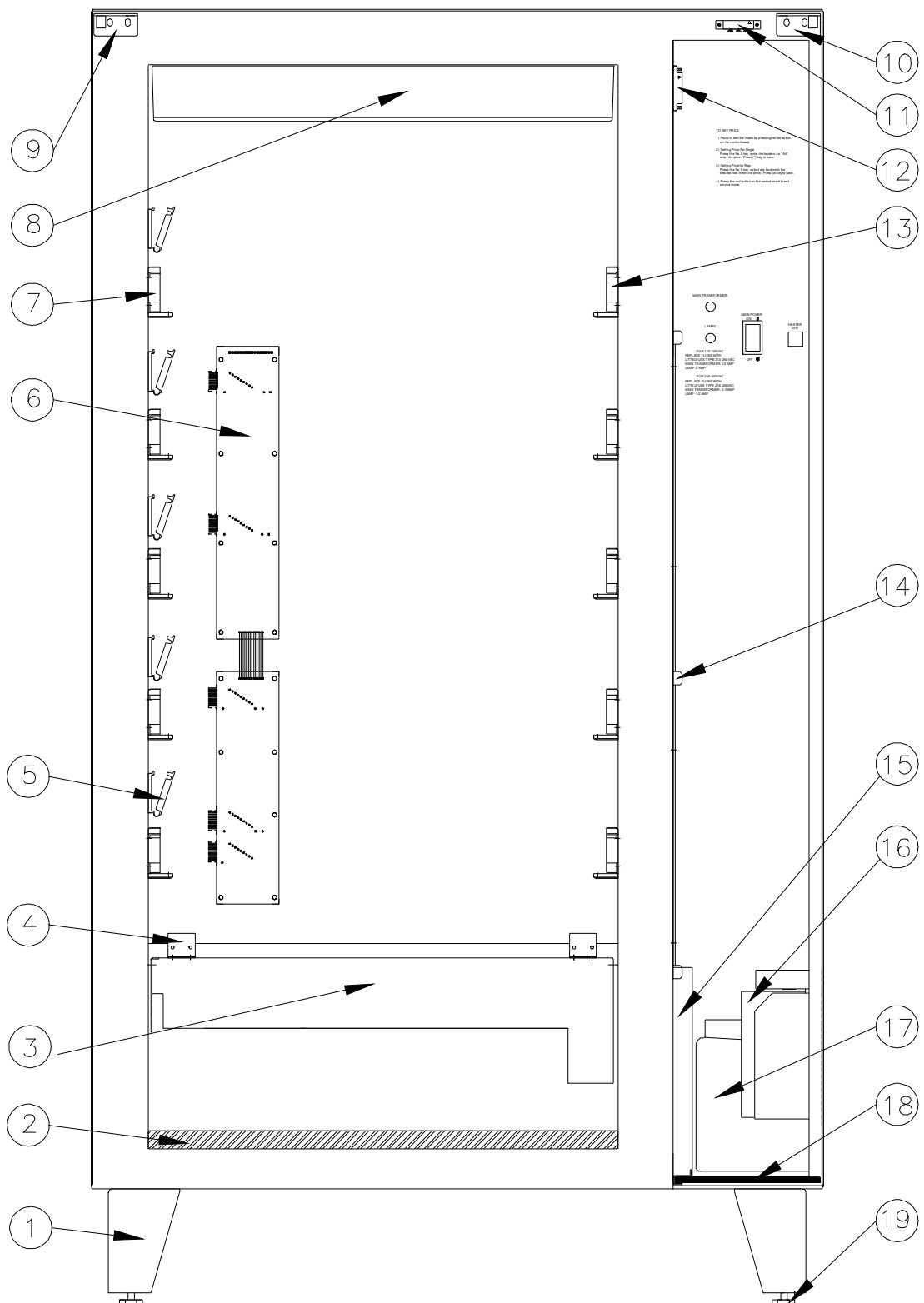
VC1100 CABINET

VC1100 CABINET

ITEM NO.	DESCRIPTION	PART NO.
1	LEG,BASE,CABINET	30034600
2	FOAM,DROPBOX	34007600
3	ANTI-THEFT FLAP	50005600
4	HINGE,ANTI-THEFT MOUNT	30029000
5	MOUNT,FLAT,CABLE	10005104
6	MOTHER/DAUGHTER BOARD,5TRY	52003100
7	RAIL,TRAY,LEFT,TILT	30033400
8	LIGHT FIXTURE ,115V	55000100
9	FREEZER DOOR MOUNT,TOP,LEFT	50004301
10	FREEZER DOOR MOUNT,TOP,RIGHT	50004300
11	SWITCH,MAGNETIC,SERVICE DOOR	21005700
12	SWITCH,MAGNETIC,FREEZER DOOR	21005700
13	RAIL,TRAY,RIGHT,TILT	30033500
14	LOCK BAR,CABINET	30025400
15	FILTER,AIR,COMPRESSOR,14x20x1	14000301
16	COIN RETURN,OVERFLOW BOX,DT210	30022800
17	DRAIN PAN,2QT BOTTLE	20003500
18	SCREEN,BASE,VC1100,PERF,GALV	30032400
19	LEVELER,HEX FOOT,1/2-13x3 1/4	10005400

55000100
LIGHT FIXTURE ,115V

	LAMP,VC1100,35W,PHILLIPS	21001200
	LAMPHOLDER,FIXED,LEVITON 465	21001300
	LAMPHOLDER,PLUNGER,LEVITON,464	21001301
	END CAP,SLEEVE,LAMP,2 EACH	10001200
	SLEEVE,LAMP,	10001201
	COVER,LIGHT,VC1100	34000200
	LIGHT FIXTURE,VC1100	34000100

SERVICE DOOR AND SERVICE COMPARTMENT
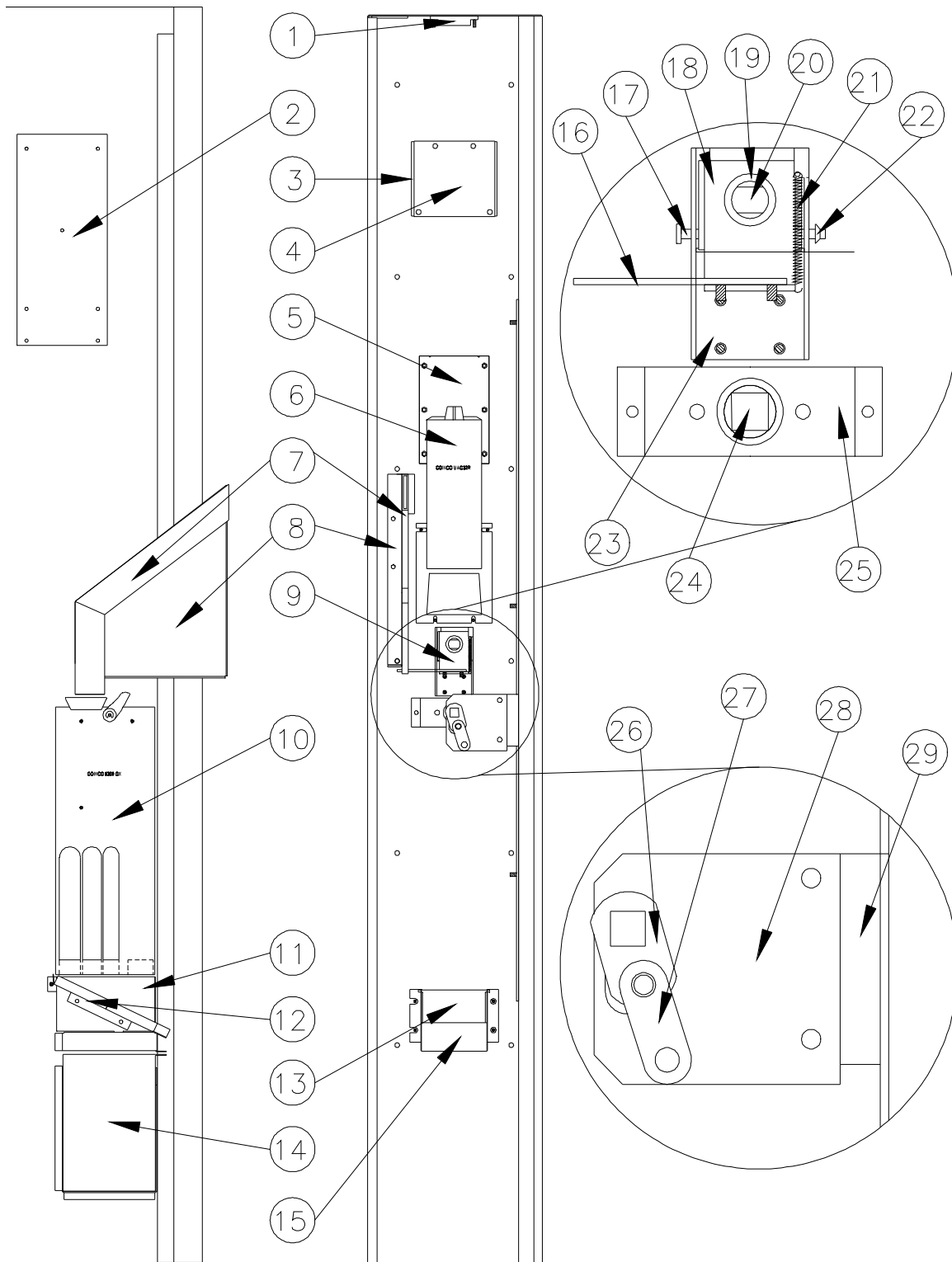
SERVICE DOOR AND SERVICE COMPARTMENT

ITEM NO.	DESCRIPTION	PART NO.
1	SWITCH,MAGNETIC,DOOR	21005700
2	CONTROL BOARD,MDB,120-SELECT	22000404
3	LENS,DISPLAY	34001700
4	DISPLAY BOARD,COINCO	22000500
5	KEYPAD ASSEMBLY,120MDB	53001200
6	BILL ACCEPTOR,COINCO,MAG32R	22000201
7	COIN CHUTE,PLASTIC	36003100
8	COIN CHUTE,MOUNT	30043500
9	COIN RETURN MECHANISM ASSEMBLY	51001900
10	COIN CHANGER,MDB,USA,COINCO,9302GX	22000301
11	COIN OVERFLOW BRACKET	50005300
12	RAMP,COIN RETURN	30030600
13	COIN RETURN,DOOR	30022700
14	COIN OVERFLOW BOX	30022800
15	COIN RETURN,CUP	30022600
16	COIN RETURN,PIVOT,EXTENSION	30031600
17	RIVET,FLAT HEAD,ALUM,3/16x2.50	10006500
18	COIN RETURN,PIVOT	30029900
19	BUSHING,SNAP,7/8	10000803
20	COIN RETURN,BUTTON	36002800
21	SPRING,COIN RETURN, PIVOT, RETAINER	10003101
22	NUT,PUSH,ZINC,3/16	10006700
23	COIN RETURN,MOUNT,DT2100	30030000
24	LOCK,T-HANDLE,CHICAGO	14000500
25	MOUNT,T-LOCK	30022400
26	LINK,T-LOCK	30025600
27	LINK,BRACKET	30025800
28	LOCK BAR,SERVICE DOOR,EXTENSION	30031700
29	LOCK BAR,SERVICE DOOR,35.00	30032000

53001200
KEYPAD ASSEMBLY,120MDB

	KEYPAD,120 SELECT MDB	22001200
	KEYPAD,BUTTON RETAIN,120S MDB	30020900
	KEYPAD,BACK,120MDB	30021700
	BUTTON,KEYPAD	34005500

ELECTRICAL PANEL

115Vac/60Hz   230Vac/50Hz

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳
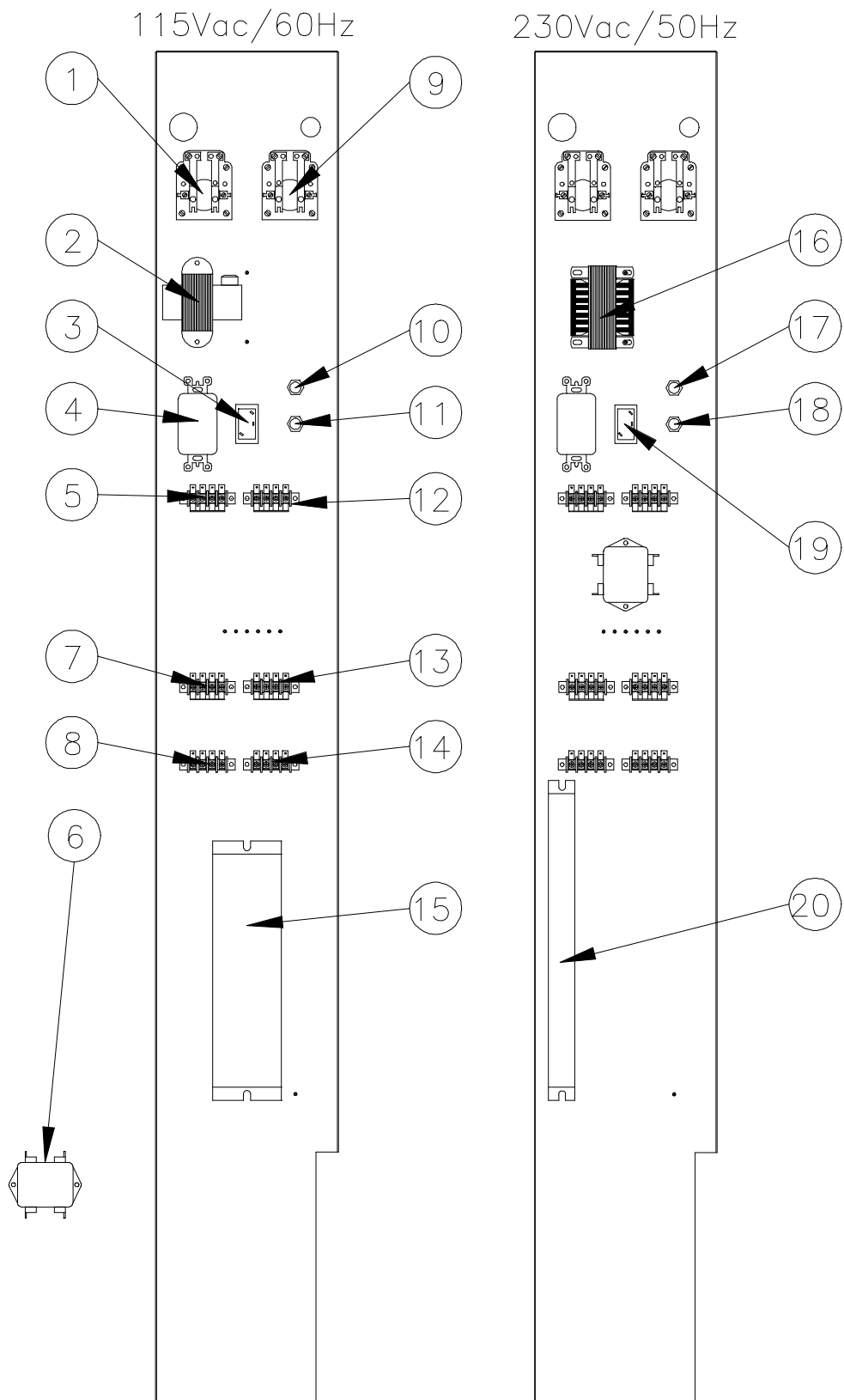
ELECTRICAL PANEL

ITEM NO.	DESCRIPTION	PART NO.
1	RELAY,REFRIGERATION,DPDT,24VDC	21006700
2	TRANSFORMER,CL2,115-24VAC,3A	21005401
3	SWITCH, ROCKER,MAIN POWER ,WITH LAMP	21002000
4	OUTLET,GFCI,120VAC,15 AMP	21000700
5	TERMINAL BLOCK,4-4 JUMPERED	32000404
6	FILTER,LINE,EMI,120-250AC,20A	21001400
7	TERMINAL BLOCK,4-4 JUMPERED	32000404
8	TERMINAL BLOCK,4-0 JUMPERED	32000403
9	RELAY,DEFROST,DPDT,24DC	21006700
10	FUSE HOLDER,PANEL MT,LAMP	21000500
11	FUSE HOLDER,PANEL MT,TRANSFORMER	21000500
12	TERMINAL BLOCK,4-4 JUMPERED	32000404
13	TERMINAL BLOCK,4-4 JUMPERED	32000404
14	TERMINAL BLOCK,4-0 JUMPERED	32000403
15	BALLAST,VC1100,35W,115V,ADVANCE	21000100
16	TRANSFORMR,OPN,230-115/24VAC,3AMP,CE	21002503
17	FUSE HOLDER,PANEL MOUNT,CE	21000502
18	FUSE HOLDER,PANEL MOUNT,CE	21000502
19	SWITCH,ROCKER,SPST,TIGA91-6S-BL-NBL,CE	21005200
20	BALLAST,VC1100,40W,230V,OSRAM,CE	21004500

CABLE ASSEMBLIES

ITEM NO.	DESCRIPTION	PART NO.
	CA,DISPLAY BOARD, 120MDB	52000503
	CA,MAIN HARNESS,VC1100,120MDB,115V	52000601
	CA,VEND MOTOR HARNESS	52000701
	CA,PERIPHERAL INTRF,120MDB	52000802
	CA,KEYPAD INTERFACE, 120MDB	52001801
	CA,DEX INTERFACE	52002600
	CA,MOTOR INTERFACE,120MDB	52003200
	CA,REFRIGERATION INTERFACE,120MDB	52003300
	CA,TEMPERATURE SENSOR,120MDB	52004000
	CA,ELEC CONNECTOR,FREEZER DOOR,CABINET	52003900
	CA,ELEC CONNECTOR,FREEZER DOOR	52003901

FREEZER DOOR AND PRODUCT DOOR
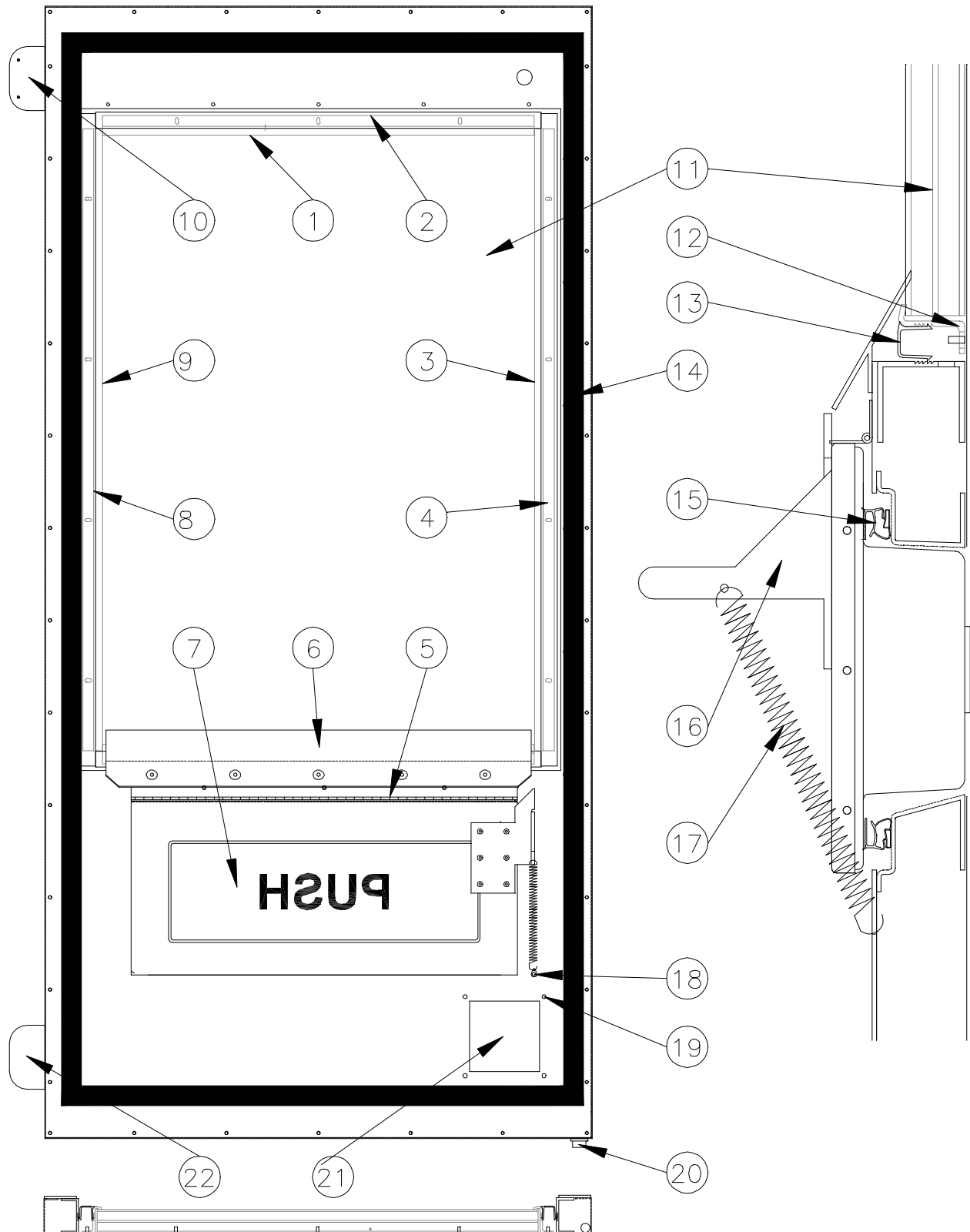
FREEZER DOOR AND PRODUCT DOOR

ITEM NO.	DESCRIPTION	PART NO.
1	FRAME,GLASS,HORIZONTAL, 24.61" LENGTH	34003500
2	BEZEL,SNAP,HORIZONTAL,25.38" LENGTH	34003701
3	FRAME,GLASS,VERTICAL, 35.25" LENGTH	34003600
4	BEZEL,SNAP,VERTICAL,37.11" LENGTH	34003700
5	HINGE,PRODUCT DOOR,	30005400
6	PRODUCT DEFLECTOR	36002700
7	ASSEMBLY,PRODUCT DOOR,	50001503
8	BEZEL,SNAP,VERTICAL,37.11" LENGTH	34003700
9	FRAME,GLASS,VERTICAL, 35.25" LENGTH	34003600
10	BRACKET,MAGNETIC SWITCH,FREEZER DOOR	30010800
11	GLASS,HTD,3PANE,3TEMP, 25.13 X 35.13	20000101
12	FRAME,GLASS,HORIZONTAL,24.61" LENGTH	34003500
13	BEZEL,SNAP,HORIZONTAL,25.38" LENGTH	34003701
14	ASSEMBLY,SEAL & TAPE,FREEZER DOOR	51003000
15	ASSEMBLY,SEAL & TAPE,PRODUCT DOOR	51002900
16	ACTUATOR,ANTITHEFT	30028500
17	SPRING,PROD DOOR RETAINER	10003100
18	CLIP,SPRING MOUNT,PRODUCT DOOR	10001900
19	RIVET,TREE,NYLON,BLK,1/4"	10001800
20	BEARING	10007000
21	COVER, WIRING,FREEZER DOOR,	34001400
22	BRACKET,ANGLE,DOOR	30007400

CONDENSING UNIT

ITEM NO.	DESCRIPTION	PART NO.
	115VAC / 60HZ	
1	½ HP CONDENSING UNIT,115V	20000201
2	½ HP COMPRESSOR,115V	20005600
3	FAN MOTOR,115V	20003202
4	FAN BLADE	20004901
5	FAN MOUNT BRACKET	10006802
6	START RELAY	20005502
7	START CAPACITOR	20005002
8	RUN CAPACITOR	20006400
9	OVERLOAD	20006500
10	RECEIVER	20004700
	230VAC / 50HZ	
1	½ CONDENSING UNIT,230V	20000202
2	½ COMPRESSOR,230V	20005601
3	FAN MOTOR,230V	20003203
4	FAN BLADE	20004901
5	FAN MOUNT BRACKET	10006802
6	START RELAY	20005503
7	START CAPACITOR	20005003
8	RUN CAPACITOR	20006401
9	OVERLOAD	20006501
10	RECEIVER	20004700

EVAPORATOR

ITEM NO.	DESCRIPTION	PART NO.
	115VAC / 60HZ	
1	EVAPORATOR,1600BTU,115V	20000300
2	EXPANSION VALVE,1/4TON,ADJUSTABLE	20000500
3	THERMOSTAT, HEAT LIMITER (2 WIRES)	20004300
4	THERMOSTAT, FAN DELAY (3 WIRES)	20004301
5	FAN MOTOR,115V	20003100
6	DEFROST HEATER,115V	20003300
7	FAN BLADE	20005700
	230VAC / 50HZ	
1	EVAPORATOR,1600BTU,230V	20000301
2	EXPANSION VALVE,1/4TON,ADJUSTABLE	20000500
3	THERMOSTAT, HEAT LIMITER (2 WIRES)	20004300
4	THERMOSTAT, FAN DELAY (3 WIRES)	20004301
5	FAN MOTOR,230V	20003101
6	DEFROST HEATER,230V	20003301
7	FAN BLADE	20005700

The following section is provided for general maintenance of the VC1100 vending machine.

Preventative Maintenance

Weekly

- Check for Error codes upon entering the service mode of operations.
- Check the motor count to insure all motors are configured.
- Check the Anti-Theft Mechanism for proper operation.
- Check the air temperature inside the refrigerated space for proper cooling.

Monthly

- Check the air inlet filter located on the left wall of the service compartment.
- Check the air inlet screen located on the base of the service compartment for blockage.
- Check the air outlet screen located on the back of the machine.
- Empty the condensation bottle located in the service compartment.
- Check the Evaporator fans.
- Check the Condenser fan
- Check the heated Glass.

Annually

- Check the condensing coil for obstructions.
- Check the condition of the legs for vandalism.
- Test the defrost cycle for proper operation.
- Lubricate the lockbar and linkages.
- Check the condition of the door seals.

Note: Refer to the specific manufacturer's manual for the coin changer and bill acceptor.

No display on front panel but compressor runs.

    1.   Transformer fuse bad.
    2.   Display Board defective.
    3.   System Control Board defective.
    4.   Faulty display cable

Selection will not vend.

    1.   Coil binding on tray.
    2.   Product jammed.
    3.   Tray or motor connector unplugged or faulty connection.
    4.   Bad motor.
    5.   System Control Board defective.

Multiple vends from one coil.

    1.   System Control Board defective.
    2.   Defective motor switch.

Multiple vends from more than one coil simultaneously.

    1.   Defective motor.
    2.   Motor harness not plugged into the vend motor correctly.
    3.   Tray cable damaged.
    4.   Defective or damaged Motor Interface board.
    5.   System Control Board defective.

Unit will not accept money.

    1.   All prices are set to zero.
    2.   Will not accept bills if coins in coin changer below minimum.
    3.   Will not accept more than one bill if bill equals or exceeds the highest priced item.
    4.   No power to System Control Board.
    5.   Coin mechanism or bill acceptor defective.

Improper or no change.

    1.   Out of coins.
    2.   Bent coins or foreign objects in coin acceptor.
    3.   Coin mechanism defective.
    4.   System Control Board defective.

Compressor does not run when main power switch is turned on.

  1.   Unit not plugged in wall outlet.
  2.   Building circuit breaker tripped.
  3.   Defective compressor or starting components.
  4.   Defective Refrigeration Relay.
  5.   Cut-out setting higher than the temperature inside the refrigerated space.
  6.   System Control Board is programmed to disable refrigeration.

Freezer will not cool to operating temperature.

  1.   Dirty condenser filter or air inlet screen.
  2.   Dirty condenser.
  3.   Evaporator fans not working.
  4.   Air leakage or bad door seal.
  6.   Loss of refrigerant.
  7.   Ice buildup in the evaporator.

Evaporator fans not running

  1.   Faulty fan control thermostat inside the evaporator.
  2.   Freezer door switch is out of adjustment or is faulty.
  3.   Loss of refrigerant.
  4.   Unit in defrost.

Temperature displays 111°F / 44°C continuously

  1.   Temperature sensor not connected.
  2.   P7 connector on the control board not connected
  3.   System control board failure.

Temperature displays 32°F / 0°C continuously

  1.   Faulty sensor
  2.   System control board failure

CAUTION:
High voltages are located in areas of the unit that could cause severe injury or death.

Untrained personnel should only attempt the replacement of the bill acceptor, the coin changer, the front panel display, the System Control Board and vend motors.

The following messages will be affected by the language selection and will be stored in the controller memory to be displayed as described in section 5.

Message #1:
English: "PLEASE INSERT EXACT MONEY"
Italian: "PER FAVORE INTRODURRE I PRECISI SOLDI"
Dutch: "AFGEPAST GELD IN WERPEN"
Spanish: "POR FAVOR DEPOSITE CANTIDAD EXACTA PLEASE INSERT EXACT MONEY"
Danish: "INDKAST AFTALTE PENGE"
French: "FAITES L'APPOINT PLEASE INSERT EXACT MONEY"
German: "ABGEZAHLTES GELD EINWERFEN"

Message #2:
English: "PLEASE INSERT MORE MONEY"
Italian: "PER FAVORE INTRODURRE PIU SOLDI"
Dutch: "MEER GELD IN WERPEN"
Spanish: "POR FAVOR DEPOSITE MAS DINERO PLEASE INSERT MORE MONEY"
Danish: "INDKAST FLERE PENGE"
French: "MONTANT INSUFFISANT INTRODUISEZ D'AUTRES PIECES PLEASE INSERT MORE MONEY"
German: "MEHR GELD EINWERFEN"

Message #3:
English: "MAKE ALTERNATE SELECTION"
Italian: "FARE UNA ALTRE SCELTA"
Dutch: "ANDERE KEUZE MAKEN"
Spanish: "SELECCIONE OTRO PRODUCTO MAKE ALTERNATE SELECTION"
Danish: "VAELG ANDEN VARE"
French: "FAITES UNE AUTRE SELECTION MAKE ALTERNATE SELECTION"
German: "ANDERE WARE WAHLEN"

Message #4:
English: "PLEASE CALL SERVICE"
Italian: "PER FAVORE CHIAMARE SERVIZIO"
Dutch: "SERVICEDIENST BELLEN"
Spanish: "POR FAVOR LLAMAR MANTENIMIENTO PLEASE CALL SERVICE "
Danish: "TILKALD SERVICEMONTOR"
French: "DEMANDEZ LE RESPONSABLE PLEASE CALL SERVICE "
German: "BITTE KUNDENDIENST RUFEN"

Message #5:
    ENGLISH: "VENDING OPERATION TO RESUME AT hh.mm "
    Italian: ""
    Dutch: ""
    Spanish:""
    Danish: ""
    French: ""
    German:""

Message #6:
    English: "MAKE SNACK SELECTION ONLY"
    Italian: "DISPONIBILI SOIO LE SELEZIONI SNACK"
    Dutch: "ALLEEN SNACK KEUZES"
    Spanish:"SOLO DISPONIBLE PRODUCTOS EN ESPIRAL MAKE SNACK
           SELECTION ONLY "
    Danish: "KUN VALG AF KONFEKTURE MULIGT"
    French: "CHOISISSEZ UNIQUEMENT LES CONFISERIES MAKE SNACK
           SELECTION ONLY "
    German:"NUR AUSGABE VON SUSSWAREN MOGLICH"

Message #7:
    English: "THANK YOU"
    Italian: "GRAZIE"
    Dutch: "DANK U"
    Spanish:"GRACIAS"
    Danish: "TAK"
    French: "MERCI"
    German:"VIEL. DANK"

Message #8:
    English: "FREE ON US"
    Italian: ""
    Dutch: ""
    Spanish:""
    Danish: ""
    French: ""
    German:""

DEX/UCS RECORD SUBSET

DEX field	DEX field description; Explanation
ID101	MACHINE SERIAL NUMBER
ID102	MACHINE MODEL NUMBER
VA101	VALUE OF ALL PAID SALES SINCE INITIALIZATION
VA103	VALUE OF ALL PAID SALES SINCE LAST RESET
CA302	VALUE OF CASH TO COIN BOX SINCE LAST RESET
CA303	VALUE OF CASH TO TUBES SINCE LAST RESET
CA304	VALUE OF BILLS IN SINCE LAST RESET
CA401	VALUE OF CASH DISPENSED SINCE LAST RESET
CA402	VALUE OF CASH MANUALLY DISPENSED SINCE LAST RESET
CA801	VALUE OF CASH OVERPAY SINCE LAST RESET
CA1001	VALUE OF CASH FILLED SINCE LAST RESET
CA1401	BILL VALUE,($1, 2, 5, 10, & 20)
CA1403	NUMBER OF BILLS TO STACKER SINCE LAST RESET
TA201	VALUE OF VEND TOKEN SALES SINCE INITIALIZATION(FREE TOKEN NO VALUE)
TA202	VALUE OF VEND TOKEN VENDS SINCE INITIALIZATION(FREE TOKEN NO VALUE)
TA203	VALUE OF VEND TOKEN SALES SINCE LAST RESET
TA204	NUMBER OF VEND TOKEN VENDS SINCE RESET
TA205	VALUE OF VALUE TOKEN SALES SINCE INITIALIZATION
TA206	NUMBER OF VALUE TOKEN VENDS SINCE INITIALIZATION
TA207	VALUE OF VALUE TOKEN SALES SINCE LAST RESET
TA208	NUMBER OF VALUE TOKEN VENDS SINCE INITIALIZATION
TA301	VALUE OF VALUE TOKENS IN SINCE LAST RESET
TA302	VALUE OF VALUE TOKENS IN SINCE INITIALIZATION
PA101	PRODUCT NUMBER
PA102	PRODUCT PRICE
PA201	NUMBER OF PRODUCTS VENDED SINCE INITIALIZATION
PA203	NUMBER OF PRODUCTS VENDED SINCE LAST RESET
PA204	VALUE OF PAID PRODUCT SINCE LAST RESET
PA303	NUMBER OF TEST VENDS SINCE LAST RESET
EA201	EVENT IDENTIFICATION; ONE FREE PRODUCT VENDS
EA202	NUMBER OF EVENTS SINCE LAST RESET
EA204	USER DEFINED FIELD; VALUE
EA201	EVENT IDENTIFICATION; PROMO VENDS
EA202	NUMBER OF EVENTS SINCE LAST RESET
EA204	USER DEFINED FIELD; VALUE
EA201	EVENT IDENTIFICATION; TUBE VALUE (.05,.10,.25, 1.00)
EA204	USER DEFINED FIELD; VALUE
EA201	EVENT ID; VALUE OF BILLS & CASH BOX SINCE LAST RESET
EA204	USER DEFINED FIELD; VALUE
EA301	NUMBER OF READS SINCE INITIALIZATION
EA302	DATE OF THIS READ OUT
EA303	TIME OF THIS READ OUT
EA304	THIS TERMINAL/INTERROGATOR IDENTIFICATION
EA305	DATE OF LAST READ OUT
EA306	TIME OF LAST READ OUT
EA307	LAST TERMINAL/INTERROGATOR IDENTIFICATION
EA501	DATE OF PRICE SETTING
EA502	TIME OF PRICE SETTING