



Freestanding Electric Pressure Fryer

EPF-24L

INSTRUCTION MANUAL

Read this manual carefully prior to use.

Technology is subject to change without notice.

Main technical parameters

DIMENSIONS (WxDxH):	460 x 960 x 1230 mm
CAPACITY:	24 L
WORKING PRESSURE:	12 Psi / 85 kPa
TIMER:	0-99"
TEMPERATURE:	20 ~ 200 °C
POWER:	13.5 kW / 415 V / 50 Hz
POWER CONSUMPTION:	3 kW/hr (including constant temperature time)
OIL PUMP MOTOR POWER:	0.5 kW
WEIGHT:	135 KG
OUTPUT:	32 KG/Hr
CONNECTION:	Three-phase four-wire

SAFETY WARNING

In order to ensure the user's safety and prevent personal injury, electric shock, poisoning, or fire and machine malfunction, please be sure to observe and clarify the following precautions:

1. Please read the instruction manual carefully before use, and keep it safe in case of operator change, future maintenance or other reference.
2. Fully understand and familiarise yourself with the symbols, graphics and warning signs marked on the fryer before use and strictly abide by them.
3. Keep in mind the manual warnings, cautions and other signs attached to the pressure fryer and within the manual.

ANNOTATION:

△ **WARNING** – Ignoring this mark and misusing, can result in personal injury or fire risk.

△ **CAUTION** – Ignoring this mark and misusing, will cause personal injury.

△ **ATTENTION (NOTICE)** – Disregarding this mark, mis-operation will cause the fryer to malfunction and affect the performance.

WARNING:

1. Be sure to use a power cord, power switch and outlet that are higher than the unit's power. (rated current 16A or more).
2. Do not touch the power cord or pull the plug with wet hands, to avoid risk of an electric shock.
3. Do not place the power cord in a hard-pressed or high-temperature facility, especially in a metal-extrusion area, with sharp edges where it is easy to break the power cord. Do not lay the power cord on the channel.
4. Appropriate food is suggested to be added to the pot one at a time. Risk of fire may occur if food is added in excessive of maximum level, causing an oil spill.
5. Please replace the power cord immediately once finding it damaged or scratched, otherwise it may cause an electric shock or fire risk.

CAUTION:

1. A strong exhaust suction device should be installed above the exhaust port of the pressure fryer. The exhaust gas should be exhausted to the outside with a metal ventilation hose. Use large-diameter metal ventilation hose to discharge the exhaust gas to the outside, otherwise there may be danger of poisoning!
2. Replace the power cord with the same type of YCW or YZW flexible oil-resistant soft cable, and the wire diameter should meet the requirements of power consumption.

3. Install an all-pole disconnected power switch, power fuse or fuse suitable for the power unit near the device. The grounding wire terminal must be connected to the ground wire with good performance and safety regulations. Ensure electrical safety and personal safety. Ignore this, and an accident may occur that will result in personal injury or even death.
4. Do not open the control box cover without authorisation. Please ask a qualified electrician if you need to open it. Otherwise, it may cause injury or death.
5. The waterproof level is: IPX4. Therefore, it is strictly forbidden to wash with water or flush with jet water. Otherwise, the machine will be seriously damaged, and the risk of personal injury will occur.
6. When heating, the oil temperature should not exceed 200 °C, otherwise fire risk is likely to occur. This will also seriously affect food hygiene and safety (this may also cause the temperature limiter to operate and cause an unexpected power failure).
7. The power supply voltage used by the device must match the voltage on the product nameplate. Voltage fluctuations is allowed in range of +5%-10%. Ignoring this, this fryer will not work properly.
8. The power supply lead in front of the socket or switch must meet the power requirements of the unit to confirm whether the power cable can withstand the maximum current of all equipment. If the current used exceeds the capacity of the power inlet, it may cause a fire.
9. The power plug should be in good contact when plugged into the socket. The middle pole of the three plugs must be well grounded, otherwise risk electric shock.
10. To prevent accidents, unplug the power cord when thunderstorms occur or when it is not in use.
11. Pull the plug with a dry hand. DO NOT pull the power cord, otherwise the cord will be pulled and separated from the plug.
12. The equipotential bonding terminal of the device is set at the lower rear of the fryer. Multiple electrical devices should not be connected at the same time, as to avoid potential difference and affecting the safety of use.
13. When connecting, removing or unplugging, you must disconnect the external mains supply first.
14. Check whether the connection or control of each electrical component is normal before starting the machine.
15. Only personnel holding electrical operation certificates should install, electrically connect and repair it.

ATTENTION:

1. After heating, do not touch the pot by hand to avoid burns.
2. This equipment should be protected from rain and moisture.
3. Do not place fryer in a corrosive environment. This should be protected from severe vibration and should not be inverted.

4. Before using or energising and heating, the cooking oil must be added to the pot. The amount of oil should not exceed the maximum oil level. Disregarding this will cause equipment accidents and risk to personal safety.
5. Keep away from flammable and explosive materials, and from places with open flames.
6. Do not use old oil containing impurities, so as not to lower the boiling point. This will easily cause boiling or excessive soot.

INSTALLATION PRECAUTIONS

Please do not install or store the device in the following locations to avoid malfunctions:

1. Unstable table or counter.
2. Where there are flammable and explosive items around.
3. Places where the temperature is too high, the humidity is too high, and the dust is too much.
4. Location where the power supply voltage is unstable.
5. Where there is no good grounding device.
6. Persons who are vulnerable, minors or have sensory impairments, should not be in direct contact with the device.
7. To prevent environmental pollution, a smoking exhaust device should be installed in the place where the fryer is installed.

PRECAUTIONS WHEN FAULT OR ABNORMAL CONDITIONS OCCUR

1. If the fault or abnormal situation occurs, please stop using the device, disconnect it from the power supply.
2. Please do not use the pressure fryer when it is in an abnormal state. Do not disassemble, repair or perform maintenance as specified in the manual. Other maintenance and debugging should be carried out by certified professionals to avoid electric shock, severe injuries and greater malfunction.
3. When the oil leak is found, cease using the device immediately, and have employ a qualified engineer to review and repair.

OPERATIONAL PRECAUTIONS

1. The machine should be operated by the designated personnel to master the correct use of equipment. This manual does not apply to persons who are vulnerable, minors or have sensory impairments.
2. The lid should be kept in place to ensure the pot is kept clean, and to preserve heat and pressure whilst in use. When adding the lid, please pay attention to ensuring

there are no water droplets on the lid, that can drip into the hot oil, causing splashing and injuries. When the pot is in operation, it should not come into contact with untrained users and customers. The countertop and the outer casing of the pot will have a high temperature, and the operator should also be especially careful when handling as to avoid burns.

3. Once frying is finished, operators should utilise the handle at the top of the basket to help prevent the basket from getting too hot. A hook is placed outside the pot to allow you to hang the basket above to filter out the remaining oil. The basket can be fried directly in the pot, but it is necessary to prevent the suspended matter from clogging the exhaust device.
4. The maximum working temperature of the pressure fryer is 200°C. When the temperature control fails, or the oil temperature exceeds 230°C, the over-temperature protector (temperature limiter/high-limit thermostat) will kick in, and the heating power will automatically be cut off. This protector will need to be reset manually and is located at the bottom front of the pot. Only when the oil temperature is cooled to below 150°C, can the reset button be pressed to restart the electric heating.
5. It is recommended to wear insulated gloves when operating the machine to avoid burns and other serious injuries.

ADDITIONAL NOTICE

1. Supply cords shall be oil-resistant, in a sheathed flexible cable not lighter than ordinary polychloroprene or other equivalent synthetic elastomer-sheathed cord (code designation 60245 ICE 57).
2. Before obtaining access to terminals, all supply circuits must be disconnected. This warning shall be placed in the vicinity of the terminal cover. Appliances to be connected to more than two supply conductors and appliances for multiple supply shall have a connected diagram fixed to them.
3. The instructions shall include warning that danger of fire exists if the fat or oil level is below the minimum indicated level.
4. To avoid a fire hazard, the instructions for appliances which are intended to be used with solid fat shall include information on how to melt the fat.
5. The instructions shall include the kind of frying medium (fat or oil) and the maximum batch load in kilograms.
6. The instructions shall include the substance of the following: These appliances are intended to be used for commercial applications, i.e. in kitchens of restaurants, canteens, hospitals and in commercial enterprises such as bakeries, butcheries, etc., but not for continuous mass production of food. If the manufacturer wants to limit the use of the appliance to less than the above, this must be clearly stated.

7. The instructions shall include a warning regarding the danger of using old fat or oil, emphasising that this will have a reduced flash-point and be more prone to surge boiling.
8. **WARNING:** Do not open the drain valves or other emptying devices until the pressure has been reduced to approximately atmospheric pressure. Attention shall also be drawn to the effect on surge boiling of over-wet food and too large a charge. If symbol IEC 60417-5021 (2002-10) or IEC 60417-5041 (2002-10) is marked on the appliance, its meaning shall be explained.
9. If a stationary appliance is not fitted with a supply cord and a plug, or with other means for disconnection from the supply mains, having a contact separation in all poles that provide full disconnection under overvoltage category III conditions, the instructions shall state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
10. If the supply cord is damaged, it must be replaced by the manufacturer, its service agents or similarly qualified persons to avoid a hazard.
11. For stationary appliances, means shall be provided to ensure all-pole disconnection from the supply mains: a statement in the instructions that disconnection incorporated in the fixed wiring is to be provided.
12. Stationary appliances shall be provided with a terminal for the connection of an external equipotential conductor. This terminal shall be in effective electrical contact with all fixed exposed metal parts of the appliance and shall allow the connection of a conductor having nominal cross-sectional area of up to 10mm².
13. It shall be located in a position convenient for the connection of the bonding conductor after installation of the appliance.

CLEANING PRECAUTIONS

The pot body of the pressure fryer is moulded by aluminium and requires cleaning every day after use. If not cleaned, the oil stains and sediments left are prone to coking, and this is very difficult to clean and remove later.

The inside of the fryer should be cleaned daily. If left, oil and breading deposits can become burnt on and be very difficult to clean.

1. When cleaning the pressure fryer, fill 3/4 way with water and add dishwashing detergent. Whilst it is still warm, use a hard bristle brush or a cleaning ball to clean the inside, but do not use hard cleaning tool (metal cleaning ball) to avoid damage to the inner pot.
2. When cleaning, be sure the unit is switched off and there is no power on, otherwise the material inside will heat up or cause the pan to overheat and get burnt.

3. Beware of using chemical cleaners that are suitable for use with aluminium. Corrosion can occur with many products. Particularly those containing caustic soda. **Hamoki cannot accept responsibility for damage caused using corrosive cleaning products.**
4. Be careful when cleaning the drainpipe and drain valve. There will be debris in the drainpipe. Before cleaning the drainpipe, the drain valve should be fully open, taking care not to damage the ball valve or its seal.
5. Be careful to remove all the water and any remains of cleaning materials before use.
6. Clean the outside of the cabinet with a damp cloth and detergent. Abrasive cleaning products such as wire wool and scouring pads will scratch the finish.
7. The pressure fryer is designed to be splash proof. On no account should you use a water jet or a steam jet on the cabinet. If it is suspected that the control circuit has been affected by water, switch off at the control circuit has been affected by water, switch off at the mains, and leave the fryer in a warm place to dry out. Do not wash in water before cleaning.
8. Before re-energizing after damp, a qualified electrician is required to check the electrical insulation degree of the pressure fryer, and then reopen after confirming correctness, otherwise it will be dangerous to use.

INSTALLATION AND DEBUGGING

1. The machine should be placed in a dry, clean and ventilated place. The moveable casters should be placed horizontally and fixed before operation. The relative humidity of the indoor environment should not be too high to avoid reducing the electrical insulation performance. If necessary, an air exhaust device should be installed.
2. This machine used 3N~415 V power supply. When connecting, please pay attention to the neutral line (N). Do not connect the wrong one, otherwise the machine will be damaged. At the front end of the power supply line, an all-pole disconnected power switch suitable for the power of the unit should be installed. The additional facilities should be attached to the power capacity requirements of the unit and should be installed by qualified technicians. The grounding terminal should connect with ground wire firmly. After checking all connections are correct, the main power switch can be opened and used normally.
3. The grounding terminal must be grounded reliably when the machine is installed to ensure safety. When multiple machines are used, they must be connected to the same potential.
4. Vibration during transportation may cause parts to loosen or shift. When installing and debugging, pay attention to tightening the loose parts.

5. Oil must be added in before heating, the oil level should never be lower than the lowest oil line in the pot (i.e. the heating tube is completely submerged in oil), otherwise the electric heating tube will burn out and the machine will be damaged.
6. When adding oil, pay attention that the oil level should not exceed the highest oil level line, in case the heating tube is still heated after opening the lid, causing the oil to boil out of the pot and cause danger.
7. The default setting pressure of the automatic relief valve is 12 Psi. If the pressure gauge indicates that is exceeds 15 Psi (yellow area) and continues to rise, stop heating, open the bleed valve to deflate, and keep the pressure within 12 Psi.

OPERATING PRINCIPLES

When using this pressure fryer for the first time, smoke and abnormal odour may appear at the beginning of heating, and this will gradually disappear after being heated for a while. This state is normal. If smoke appears after using for a while, do not continue to use the unit and investigate the cause of the smoke.

PREPARATION BEFORE STARTING UP:

1. Before adding oil, open the front panel door to check the oil drain valve and the pump oil valve are in a closed state. Once checked, oil can be added.
2. Before pressing the control panel switch to start, open the lid and add roughly 25 litres liquid cooking oil to the pot. (When filling, pay attention to the oil line in the pot. Oil level should sit 10mm above the heating tube.) Turn on the panel switch to "COOK" and the panel will start to light up.
3. After starting, set the frying programme as per operation instructions (below). After settings are completed, press the "constant temperature" button to preheat the oil. While the temperature is reaching the working (fried) temperature, it is better to not close the lid. When preheating, slowly stir the oil in the pot to make sure the temperature is even throughout.
4. After oil has reached the set working temperature, turn off "constant temperature" and put the food evenly into the frying basket. Insert the handlebar into the handle of the frying basket and slowly put into the pot.
5. Remove the handlebar, quickly close the lid, hook the lock and tighten the screw on the top cover (you must rotate the tightening screw until it stops completely). The red ball on the handle should be in the same direction as the red ball on the hook.
6. Press the timer (chronograph) button, to control the temperature and start the countdown. If pressure mode is set, the exhaust solenoid valve will automatically close. The pressure in the pot will start to rise slowly and will be indicated on the pressure gauge outside.
7. Once pressure has reached 12 Psi, the relief valve will open and automatically vent to keep pressure constant and regulated.

8. When the temperature in the pot reaches the set temperature, the heating tube will automatically stop heating, until the temperature dips lower than the set temperature and the heating tube will start again and thus circulates.
9. When the timer displays 0, the exhaust solenoid valve will automatically open and deflate, and the frying process is completed. Wait until the steam in the pot has disappeared, and then wait a further 30 seconds before loosening the upper cover to; tighten the screw, press the beam, lift the hook by hand, and open the hook to open the lid. It is best for the person to stand in front to open the cover to prevent the hot air from scalding the wrist, then use the handlebar to lift the basket and hook either left or right side of the pot, wait a while for oil to filter out and off food, then the basket can be raised outside the pot. Please prepare a temperature-resistant container at the exhaust port in advance. After the pressure is completely reduced, the pressure gauge will display 0 and you can open the lid again. If the pressure inside the pot is not released, opening the lid may cause burns risk.
10. Operators must be proficient in operational knowledge and professionally trained to work safely. During production, personnel must not leave the site, and should monitor the production process in time and immediately stop the machine if it finds an abnormality. If one is found, try and locate the cause and follow the troubleshooting section. Do not operate until fryer has been troubleshooted.

HOW TO OPEN AND CLOSE LID COVER: Cover the fryer with the lid and tighten the knob by rotating to the left (to release) the handle to press the horizontal (large) beam, lift the hook lock handle at the front end, release the beam hook, and lift the lid. Press the beam, lock the hook (lock) hook, turn the fastening handle to the right and tighten it properly, so that the red ball on the screw (handle) and the red ball on the hook lock are in line, it is considered sealed.

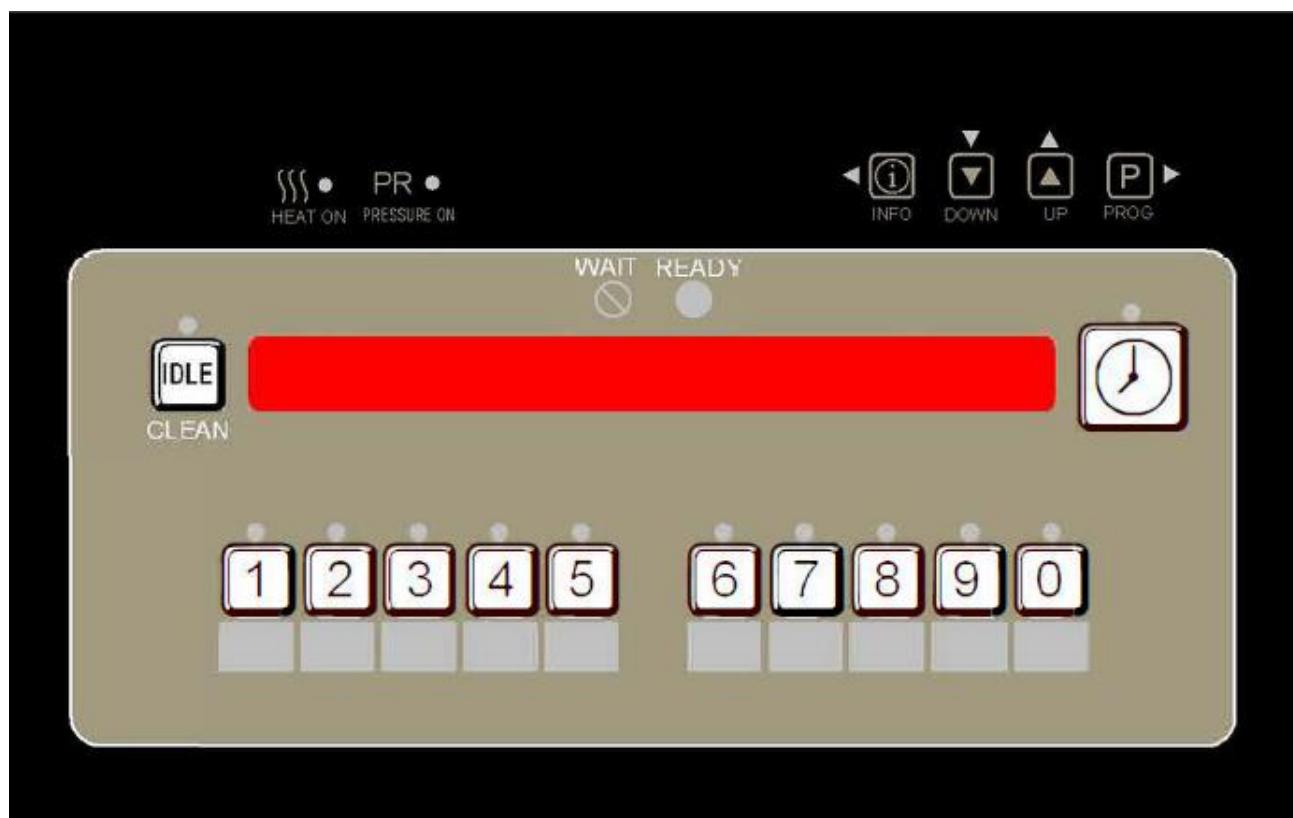
The fryer is designed as an explosion-proof cooker. When the pressure exceeds the rated working pressure, the beam on the lid will bend and vapour will be released. This may be because the whole of the automatic pressure relief valve is blocked. Please pay attention to cleaning the pressure relief valve and ensuring it is clear. The silicone sealing ring inside the lid should be replaced overtime. An aging sealing ring will also cause the valve to leak.

PREHEATING PREPARATION AND OIL PROCESSING: Vegetable oil (except peanut oil) needs to be cooked before use, otherwise it contains the smell of raw oil. Oil should be pre-heated whenever new oil is added and the first (cold) cooking. In addition, during the preheating and oil processing, pay particular attention to the heating time and temperature, as this cannot be based on the pressure gauge, as the oil only has a small trace of water, so no water vapour will be produced for the pressure gauge to measure and pressurise.

While starting to heat the cold oil, immerse the food to be fried (such as chicken pieces) in the seasoning. Prior to frying, it is best to have applied the seasoning to the food, for more than 20 minutes. The food should be dried after soaking or coating, otherwise too much moisture will affect the whole frying process.

OIL FILTER PROGRAMME: Before filtering, turn off the main power switch and take out the fryer basket. It is recommended the oil temperature be below 120 °C. Put on the filter paper bag and seal it with the filter paper clip. Ensure you tighten the nut on the suction pipe by hand, before opening the oil drain valve to release the oil into the tank. After the oil has been relocated, clean the oil slag (mixture of metal oxides and silicon dioxide) from the heating pipe. Once cleaned, close the oil drain valve, move the handle of the pump switch to “OPEN” position, then press the power switch down to the PUMP. This will start the process of pumping oil back into the pot. When pumping oil, please ensure this is covered to prevent hot oil splashing. Once this is finished, close the oil filter valve and switch the handle to “CLOSED” and turn off the power switch to 0 to stump the pumping oil process. When the remaining oil and residue in the tank has cooled, hand-screw the nut join on the suction pipe and take out of the tank. Remove the filter bag outside the filter screen, clean the tank and the oil filter net, in preparation of next use. During operation, be careful not to cause burns from oil temperature.

PANEL OPERATION AND SETTING INSTRUCTIONS



ITEM NO	DESCRIPTION	FUNCTION
1	 HEAT ON	Lights when the control calls for heat; the elements or burners come on and heat the oil.
2	 PRESSURE ON	Lights when the solenoid valve closes and pressure starts to build inside the pot
3	DIGITAL DISPLAY	Shows all the functions of the Cook Cycle, programme modes, diagnostic modes, and alarms
4		Flashes when the oil temperature is NOT at the proper temperature for cooking the product
5		Lights when the oil temperature is 3°C below to 9°C above the cooking temperature, signalling that the oil IS at the proper temperature for cooking the product
6	 INFO	<p>Press to display the following fryer information and status:</p> <ol style="list-style-type: none"> The temperature of the oil The temperature setpoint Filter status The number of times filtered today The average no. of filters per day No. of times Cook Cycle was stopped early today No. of times Cook Cycle was stopped early in past week Oil Life Display (Only if "Change Oil" feature is enabled) Date and time <p>If pressed in the Programme Mode, shows previous settings;</p> <p style="text-align: center;"></p> <p>pressing INFO along with  PROG accesses the Information Mode, which has historic information on the operation and fryer's performance</p>
7	 DOWN	Used to adjust the value of the currently displayed setting in the Programme modes
8	 UP	
9	 PROG	<p>Press to access Programme modes; once in the mode, it is used to advance to the next setting; if pressed with  INFO it</p> <p>accesses the Information Mode, which has historic information on the operation and fryer's performance</p>

10		Used to start and stop the Cook Cycles, and to stop the timer at the end of a Holding Cycle
11		Used to manually enter an Idle Mode, or Clean-Out Mode
12	MENU CARD WINDOW	Name of food product associated with each product selection button; the menu card strip is located behind the decal
13		Used to select the product for cooking; to start the Cook Cycles with them

BASIC OPERATING PROCEDURES

POWER OFF: When the power switch is off, the display will show "OFF". Before switching on, check the drain valve is closed. Move power switch to COOK, the display will show "8888888888888888". "IS POT FILLED" will then display, followed by "1=YES 2=NO". Press 1 and unit will automatically go into Melt Cycle.

MELT MODE: "MELT" will display, along with the current oil temperature, followed by "PRESS IDLE TO CLEAN", and "PRESS PROD TO EXIT". When the temperature reaches 110°C, the control goes into the Heat Cycle, and heats the oil until the temperature setting is reached. To bypass the Melt Cycle, if desired, press a product button and hold for five seconds. The display shows "EXIT MELT? 1 =YES 2=NO". Press 1 to exit melt. If you are heating the cleaning solutions or vinegar solutions, and you want to go into the Clean-Out Mode, press and hold IDLE/CLEAN in Melt Cycle.

CLEAN-OUT MODE: This mode is for cleaning the fry-pot upon initial start-up and every oil change. When the fryer starts the Melt Cycle, press and hold IDLE/CLEAN "CLEAN tt°C mm:ss" will display. The "tt°C" is the current solution temperature, and "mm:ss" is the preset Clean-Out Minutes (SP-7). The display will wait until the solution heats up to a pre-programmed temperature (SP-8), then automatically begins the preset time countdown. After "DONE" shows, you must move the power switch to OFF position to exit. Use the DOWN, UP buttons, to adjust the temperature and keep cleaning solution from boiling over. **NOTICE:** Never pressurise fryer to clean.

COOKING MODE: WAIT light will flash until 3°C before set temperature is reached. The current temperature will show alternately with "WAIT" on the display. Then, the "READY" light will illuminate and show on display. If a number like "2X" shows, it means only two filter cycles remained. There can be a Preload timer if you have programmed it. The Pre load Mode allows the operator to drop large pieces first, with the lid up, before loading the rest of the product. After the preload timer counts down, "DROP" flashes on the

display. Press and release  to continue. Up to 10 cooking steps can be preset for each product. Each step can have its own timer, a temperature setting, and a pressure

option. The control is delicate. Press and release  or just the product button (selected by SP-6), to start a Cook Cycle. The display counts down the cooking time. You can also see a step number on the display to tell you the cooking stage. At the end of the cooking, an alarm sounds, and the display flashes "DONE". To stop the alarm,

press . If a Quality time (hold time) was programmed, the controller automatically starts the hold timer. The display alternately shows the product selected, and the quality time remained in minutes; "QU 3" means 3 minutes remaining. At the end of the Hold Mode, a tone sounds, the display flashes "QUALITY ", and the product it was timing.

Press and release . If you have enabled the Load Compensation, the timer will be compensated. There will be an average temperature. The timer speeds up at temperature above this setting and slows down at a temperature below. If you have preprogrammed the ALARM items, then at the preset time, an alarm will sound and alarm type flashes in the display, prompting the operator to do some required actions.

IDLE MODE: Allows the oil temperature to drop to a lower temperature (SP-4A), while not in use. When in Idle Mode, "IDLE" displays. If the Idle Mode enabled (by SP-4), the operator can press and release the IDLE button to enter idle mode anytime you want. If you have also preprogrammed the SP-4B (Auto Idle Minutes), the fryer will enter the Idle Mode after the Auto Idle Minutes countdown without any cooking operation. You can preprogramme the SP-4C (Go Idle at Melt?) to enable the Idle Mode entrance after Melt Cycle. Also, you can preset the IDLE MODE below every product to choose whether the fryer will enter the Idle Mode at the end of each cooking countdown operation.

LOCK-OUT-TO-FILTER MODE: This is optional (see SP-5 group). If enabled, the control will signal the operator when the oil needs filtering. The oil continues to heat when filter lockout occurs. If the oil temperature is below the preset temperature in the Special Program Mode (SP-5C, SP-5D), a tone sounds and "FILTER LOCKOUT," and then "WAIT" shows on the display. Once the oil temperature reaches the preset temperature, "FILTER LOCKOUT", and then "YOU * MUST* FILTER NOW. " displays and the oil can now be filtered. During filter lockout, PROG is the only button that functions, until the unit is filtered. In addition, you must preset the FILTER INC (or FILTER AFTER) in product programming to use this function.

ALARM AND ERROR CODES: The below error codes and reminders will be displayed:

NO.	DISPLAY	INFORMATION
1	E-6A	Temperature Probe Failure
2	E-5	Oil overheated
3	Change Oil	Oil must be changed now
4	E-15	Drain Switch Open

INFORMATION MODE: This mode gathers and stores historic information on the fryer's performance, and let you recover it by hand from the "Change Oil" reminder. Press PROG and INFO at the same time and "USAGE SINCE" shows on display, along with date this data was manually reset. Press and release PROG to access other items. Press and hold PROG to exit. When the "USAGE" shows, along with the "ENTER CODE", enter the code stored in SP-12 (Usage Code Change, **the factory preset value is 123**), you have then reset "Change Oil" reminder.

CONTENT	DESCRIPTION
REVIEW USAGE SINCE NOV-14	Day the usage data was reset previously
PWR ON HR 6	Number of hours the fryer was on
TOTAL CK 20	Total number of Cook Cycles
OIL WEAR 'A' 40%	The passed number of Cook Cycles, as a percentage of the SP-9 (Change oil - A-Cook Cycles) setting
OIL WEAR 'B' 20%	The number of hours the fryer has been on, as a percentage of the SP-10 (Change oil - B-Hours) setting
USAGE _____	If the Usage Codes you entered are correct, "USAGE RESET" shows

PROGRAMMING: Includes two settings modes: the product programming, and the level 2 programming. Usually after 2 minutes wait without any key entered, the programming mode will exit.

PRODUCT PROGRAMME MODE: Press and hold PROG for one second until "PROG" shows in the display, followed by "ENTER CODE". Enter code 1,2,3 . "OPERATION SELECT PRODUCT,,, PRESS PRODUCT,,, " scrolls across display. Press and release the desired product button (1 to 10). Press and release PROG The name of that product shows in the display. Ex., "NAME *FRIES *". The following are the whole setting contents.

CONTENT	DESCRIPTION
NAME	To change product names; Press and release DOWN, UP, and the first letter or digit starts flashing. To continue to the next letter, press PROG. Then press DOWN, UP to change this letter. Repeat previous step until up to 7 letters are entered. Press and hold PROG to exit Mode or press and release PROG until "PRELOAD" shows in display, to continue with mode.
PRELOAD	The Preload setting allows the operator to drop large pieces first, with the lid up, before loading the rest of the product. The Preload Cycle always runs without pressure and always regulates to the Step 1 cook temperature. Press DOWN, UP to set a preload time, or keep it to 0:00 if no preload is desired.
1 TIME AT	Press and release PROG, and "1 TIME AT" displays, along with the preset time. Press DOWN, UP to change the time. The time shows in minutes and seconds. Press and hold the buttons, and the time will Jump by 5-second increments to a maximum of 59:59.
1 TEMP	Press and release PROG, and "1 TEMP" displays, along with the preset value on the right side. Press DOWN, UP to change the temperature. Press and hold the buttons and the temperature will Jump by 5-degree increments to a max of 190°C, and a min of 90°C.
1 PRESSURE	Press and release PROG, and "1 PRESSURE" displays along with "YES" or "NO". Press DOWN, UP to build pressure in the first step, or not.
2 TIME AT	Press and release PROG, "2 TIME AT" displays, along with a step-2 time. If no step-2 is desired, set time to 0:00 and press PROG. If a step-2 desired, press DOWN, UP to set a time. Then press FROG to continue to set temperature and pressure. NOTE: Up to 10 steps can be programmed for a product, repeating the above step for each cooking step.
ALARM-1	Press and release PROG, and "ALARM-1 00:00" displays. Press and release DOWN, UP to set an alarm. If a Cook Cycle was set at 3 minutes, and an alarm was to go off after 30 seconds into the Cook Cycle, "2:30" would be set in the display. When the timer counts down to 2:30, the alarm sounds. After the alarm time is set, press PROG to set alarm type. "TIME", "SHAKE", "STIR", "ADD", and "LID" can be set. An alarm sounds and type flashes, prompting to; shake the basket, stir the product, add product, or close the lid. If "TIME" is selected, the time remaining flashes in the display. Notice: Up to 4 alarms can be programmed. After the first one is set, the other alarms can be accessed by pressing PROG again.

QUAL TIME	Press and release PROG until "QUAL TIME" displays along with the preset holding time. Press and release the DOWN, UP to adjust the holding time, up to 59:59. Notice: To exit the Program Mode at any time, press and hold PROG for 2 seconds.
LOAD COMP	Press and release PROG, and "LOAD COMP" displays along with the load compensation value. This automatically adjusts the time to account for the size and temperature of the cooking load. Press and release DOWN, UP to change this value to a max. of 20 and a min. of 0.
LCOMP REF	Press and release PROG, and "LCOMP REF" displays, along with the load compensation average temperature (if load compensation is set to "OFF", then " ____ " shows in display). This is your average cooking temperature for the products you cook. The timer speeds up at temperatures above this setting and slows down at temperatures below this setting. Press and release DOWN, UP to change this value. Or, to use the cooking set-point temperature as the load compensation reference point, press UP until "STEP-X" on the display. I.e. If the cooking temperature is 350°C, the timer speeds up when the oil temperature is above 350°C, and slows down when the temperature is below 350°C.
IDLE MODE	Press and release PROG, and "IDLE MODE" displays, along with "YES" (means to enter idle mode after done) or "NO". Press DOWN, UP to toggle between YES and NO.
FILTER AFTER OR FILTER INC	Press and release PROG, to enter Filter Setting (Optional). For this setting to appear in the Product Program Mode, the Filter Tracking (SP-5) must be enabled in Special Program Mode. There are options to program it as "mixed" (each product has its own filter count) or "global" (all products have the same count). If SP-5 is "Mixed", "FILTER AFTER" displays, along with the preset number of Cook Cycles. Press and release DOWN, UP until the desired number of Cook Cycles between filters shows. If 4 is set for a product, each time that product is selected, it counts 1/4, or 25%. Then, each time a product is cooked, the percentages add up until 100%, or more is reached. Then, display shows "FILTER SUGGESTED". If SP-5 is "GLOBAL", "FILTER INC" shows, along with "YES" or "NO". Press and release DOWN, UP to "YES" if that product is to be included in the filter count or "NO" if not to.

SPECIAL PROGRAMME MODE: Press and hold PROG for 5 seconds until " LV -2 LEVEL 2 ", followed by, "SP PROG" and "ENTER CODE" shows in the display. Press and release PROG, you can transfer between SP PROG mode, the CLOCK SET, and the FACTORY adjustments. Enter code 1,2,3 in SP PROG. "SP-1" shows in the display, along with the preset temperature degree. The Special Program Mode (SP PROG) is used to set more detailed parameters listed below:

CONTENT	DESCRIPTION
SP-1	Degrees Fahrenheit or Celsius (°F or °C)
SP-2	System Initialization. Press and hold DOWN to initialise the special and heat control parameters
SP-3	Type of oil to be melted – Liquid or Solid. When 1 - Liquid, heat on 12 seconds, then off for 12. When 2- Solid, if temperature is below 80°C, heat on 2 seconds, off for 14, if above 80°C, then equal to Liquid
SP-4	Idle Mode
SP-4A	Idle Mode Set-point Temperature. 90~190°C (194~374°F)
SP-4B	Auto Idle Minutes. Off~60 min, OFF means no automatic idle entrance
SP-4C	Go Idle at Melt
SP-5	Filter Tracking Enabled. They are: 1- OFF, no oil-filter reminder or lockout 2- MIXED. Each product has its own filter count 3- GLOBAL. All products have the same count If not OFF, you continue to:
SP-5A	If MIXED, this is a percentage to remind oil-filtering (75~100%) If GLOBAL, it's a cycles' count limit to remind filtering (1~99)
SP-5B	Lockout Enabled.
SP-5C	If MIXED, this is a percentage to lockout (100-200%). If GLOBAL, it's a temperature which allows the fryer to heat to this set-point before filtering 12~190°C (248-374°F)
SP-5D	When MIXED, this is the set-point temperature before filtering 12~190°C (248-374°F)
SP-6	Product Buttons 1 - COOK. Press a product button, not  to display product and start the Cook Cycle. 2 – SELECT. Press a product button to display the product only. Press  to start the Cook Cycle.
SP-7	Clean-Out Minutes. OFF~99min, OFF = close mode
SP-8	Clean-Out Temperature 40~90°C (104~194°F)

SP-9	Change Oil – A – Cook Cycles. Up to 5000, OFF = close tracking
SP-10	Change Oil – B – Hours. Up to 999 hrs, OFF = close tracking
SP-11	Programme code change
SP-12	Usage code change

CLOCK SET: Enter code 1,2,3 in CLOCK SET and go to set local time. The flashing content can then be changed (using DOWN, UP buttons).

CONTENT	DESCRIPTION
CS-1	Setting Year
CS-2	Setting Month
CS-3	Setting Date
CS-4	Setting Day of Week
CS-5	Setting Current Hour
CS-6	Setting Current Minute

FACTORY MODE: This setting mode is mainly for the manufacturer's use only. First, enter the certain passcodes. Then, press PROG to go to the desired setting group;

1. **Heat Control, code 0,0,0,5.** Enter code 0,0,0,5 and then press and release PROG to pass into the heat control parameters group

CONTENT	DESCRIPTION
HC RT	Setting Temperature Addition (-99~99°C)
HC HP	Setting Proportional Zone of Heat (0~200°C)
HC DB	Setting Dead Zone of Heat (0~9.9)
HC TCM	Setting Method of Heat Calculation (0-P, 1-PID)
HC Tomin	Setting the Low Limit of Heat (0~100%)

2. **Amps Reading Check, code 0,0,5,8.** Enter code 0,0,5,8 then press and release PROF to pass into the amps reading check group

CONTENT	DESCRIPTION
AMPS, NOM	Nominal Amps Reading (0~50A)
AMPS, LOW	Amps Reading Low Limit (50~99%)
AMPS, HIGH	Amps Reading High Limit (101~150%)

SAFETY POINTS FOR ATTENTION

1. In order to protect people from injury, the machine cannot be used if the grounding device is not equipped. (Use 2.5mm² cuprum wire to contact with the ground bolt).

2. Don't start to heat when there is no oil in frypot or the oil level is lower than heating tube element, otherwise the element will be burn. Please don't wash the heating element with cold water until cooled, or it will explode.
3. Latch the lid before heating. Before you open the fryer lid, make sure there is no pressure in the frypot, the pressure gauge will show "0". After 30 seconds, open the fryer lid to avoid explosion from pressure.
4. To ensure good sealing between fryer pot and lid, do not use handle or other hard tools to strike lid or mouth of fryer.
5. The rubber seal on the fryer lid should not be removed or dismantled, as it will affect sealing. While not in use, close the lid. Do not overtighten, to avoid aging the seals.
6. Cut power to the machine while not in use to avoid explosion from incorrect operation.

MAINTENANCE AND UPKEEP OF THE MACHINE

1. Clean the overflow valve twice weekly, screw the screw lid, and clean the gravity block, making it jump freely and open and close flexibly. Check the general electricity and screws of power line, and joints monthly. If any are loose, fasten them.
2. Clean smear away from the electro thermal pipe in the boiler and cabinet after daily work is over, to keep clean and sanitary and enhance life span of the machine.
3. After a period of long time use, the rubber gasket will need to be replaced if aging and ineffective. Loosen the glue bar fastening screws of four sides on the cover, take out the glue bar from the groove slowly, put new sealing rings into the groove, and fasten the screws.
4. The machine is equipped with overheating protector. If the temperature controller is out of work and the oil temperature is up to 250°C, temperature limiter can cut off the heating power to make sure of the safe. Operator should check the reason for overheating and try to resolve. If needed, you should press the reset key in the temperature limiter to restart the machine.

TROUBLESHOOTING

No.	PROBLEM	CAUSE	CORRECTION
1	Machine not working	Check the electrics power on/off, see if fuse is burnt, missing a phase or neutral wire is incorrectly installed	Reinstall the wire
2	Not heating	Contactor failure or loose wire	Reinstall contactor or have wires tightened
		Time relay failure	Adjust or reset it

		Panel not working well, or the temperature sensor failure	Adjust or reset them
3	Heating slowly	Weak or burnt-out element	Reset the element (must be checked by multi-meter)
		Elements not connecting properly	Adjust the wire contact
4	Not controlling temperature automatically	Temperature sensor failure	Mend or reset it
		Circle not contacting well	Adjust the wire contact
5	Not timing	Circle not contacting well	Adjust the wire contact
		Time controller not working	Reset the controller
6	Operating pressure too high	Deadweight clogged	Turn unit off and allow fryer to cool to release pressure, remove deadweight and clean deadweight valve section
		Exhaust line to stack clogged	Clean Exhaust line to stack
7		Pressure gauge failure	Reset it, do not try to mend
		Solenoid valve leaking or not closing	Check solenoid valve or clean it
		Lid gasket leaking	Reverse gasket or lid needs adjusting
		Lid open or not latched	Close and latch lid
		Product not fresh or not enough product in fryer	Place proper quantity of fresh product within pot to generate steam
		Metal shipping spacer not removed from deadweight	Remove shipping spacer

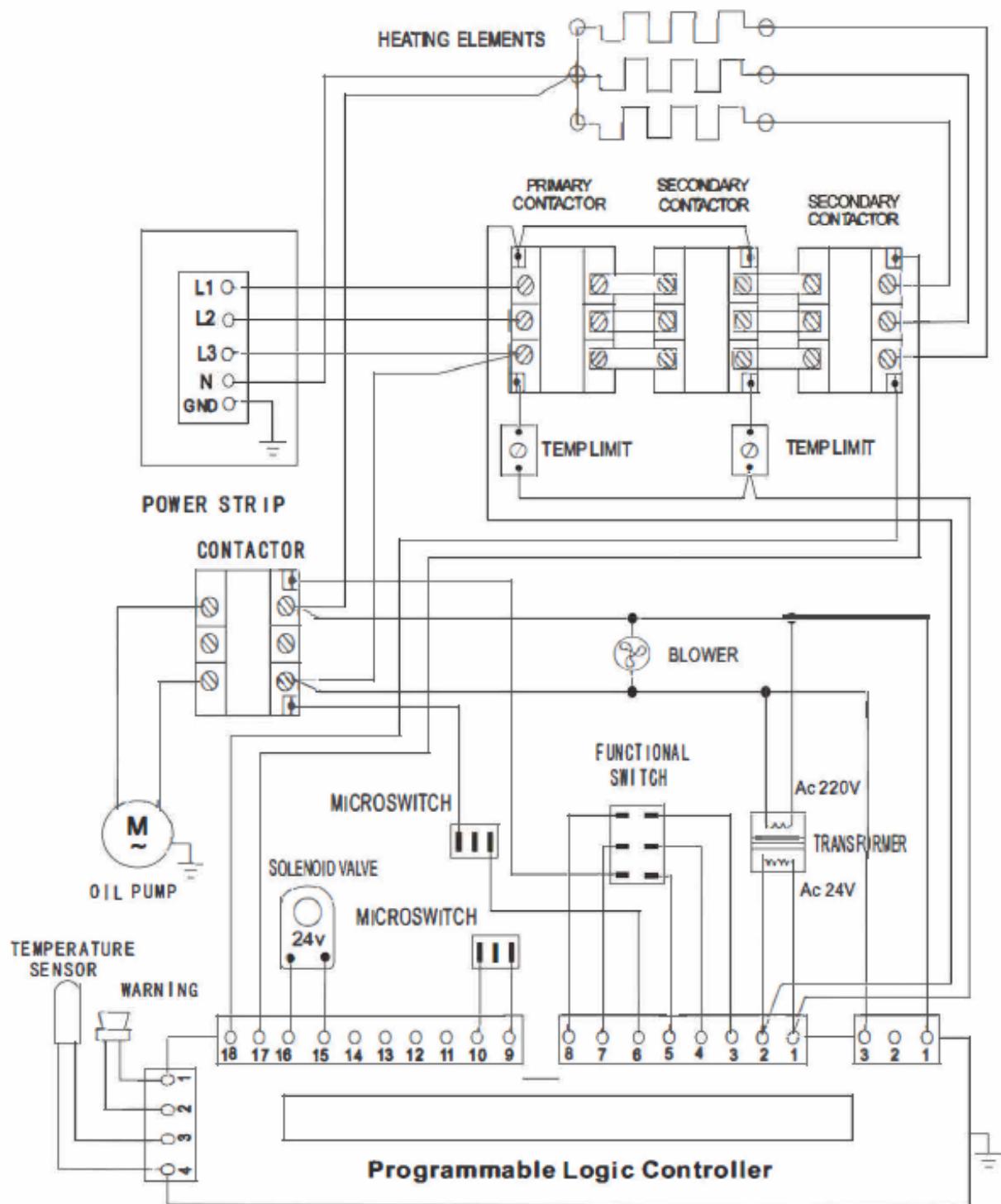
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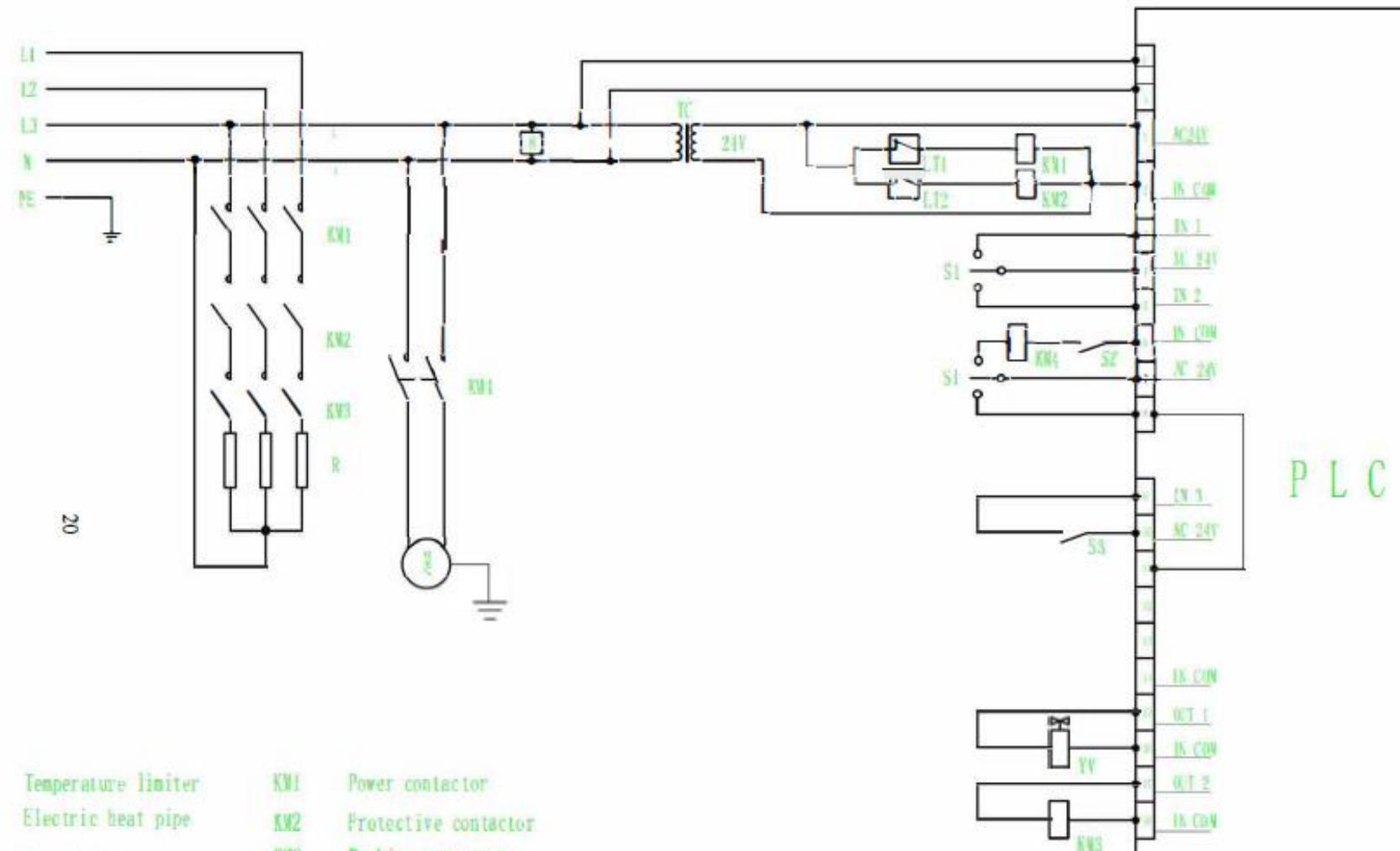
Email: Sales@hamoki.co.uk

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MODEL: EPF-24L 3N~415V 50Hz 4W+G

CONNECTION DIAGRAM



EPF-24L Electrical schematic