

Executive standard: IEC 60335-2-37-2002

OFE-/239/H239 Series

**Electric Open Fryer**

**INSTRUCTION MANUAL**

Read this manual carefully prior to use.  
Technology is subject to change without notice.

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## **I. Safety notes of Electrical Powered Fry Pot**

To protect people from being hurt, electrical shock, poisoned and fire hazard, please make sure that following instructions are followed. Please read this manual with attention and keep this manual, so that the manual will be referenced during operation. Please also read and note the indications and alarm notices, so that those rules are abided by.

### **Alarm, safety instruction, and important notes**

#### **WARNING**

Ignoring this notice would result in personal injury, death or fire hazard.

#### **WARNING**

Ignoring this notice would result in personal injury

#### **ATTENTION**

Ignoring this notice would result in malfunction of this machine or cast negative impact on its performance.

#### **WARNING**

Please do use Air break switch correspondent to power rate of this machine.

Don't touch power cable with wet hand to avoid possible electrical shock.

Don't put power cable under any table or chair or any other hard object, especially don't put cable under any location, which might be under potential hazard of stress of being damaged by sharp corner of metal part. Please also note not to put cable on passageway.

Food shall not be too wet for fry hot oil splash, which might result personal injury.

To avoid possible spill of oil by over scale food being put for fry, which might result in fire hazard, quantity of food being put fry has to be under suggested limitation.

Cable shall be changed as soon as scratch, breakage or damage is discovered, or it might result in electrical shock or fire hazard. YCW or YZW flexible cable shall be selected for cable replacement with correct diameter of cord correspondent to power rate.

Power switch of all pole disconnection function, fuse shall be fixed nearby for the fryer; grounding end



has to function correctly correspondent to relevant standard and regulation to ensure personal safety.

Neglecting the above instruction might result personal injury.

Socket, plug and cable have to be correspondent to specific requirement of power rate of this machine. Make sure that power cable is made for Maximum current of this machine stated. Fire hazard might be result in case working current exceeds capacity of cable fixed.

Cover of power unit box shall not be opened or it has to be opened by licensed technician, or it might result in personal injury.

The machine is common grade water proof designed and fabricated. Grade of water proof: IPX4. Therefore cleaning by submerging the machine under water is not allowed and could result in personal injury or bad damage to the fryer.

Fry temperature shall not exceed 200°C, or it would result in fire hazard and food safety problem.


Voltage of power connected to the machine has to be correspondent to nominal voltage stated on data plate of machine. 3 phases 4 cables to be connected to the machine, neutral line has to be connected correctly. Maximum fluctuation of voltage is +5%--10% of nominal value. Neglecting this instruction would result in malfunction of machine.

## **WARNING**

The plug of machine has to be well connected to the socket, or it could result in fire hazard.

To avoid accident, plug shall be disconnected in thunder season or in case long time no use.

Unplugging power cable has to done with dry hand, don't pull power cable, or it would result in its breakage.

Voltage pole  of this machine locates at the bottom of the machine. It is connected with several electrical units to avoid voltage deviation.

Disconnect main power switch of power supply line in case connecting, dismantling or unplugging cable.

Check connection and control of all electrical components before start machine.

All electrical related parts has to be installed, wired and serviced by licensed technician.

## **ATTENTION**

Don't touch heating unit to avoid possible injury after machine is connected to power

The machine shall be protected from exposing in raining and humidity.

The machine shall not be placed in corrosive environment, shall be protected from vibration and shall not be put up side down.

Before connecting with power and heating happens, liquid form oil has to be filled into pot. Oil level has to be kept above "MIN." mark and lower than "MAX." mark. Neglecting this instruction may result in accident or personal injury.

Place the machine away from explosive device and open fire.

## ATTENTION

Used oil with foreign substance shall not be used in machine to avoid over produced soot and oil boil.

### Safety Guide

Don't place the machine at hereunder location to avoid malfunction lead by mis-operation

Unsteady table or counter

Where there is explosive or flammable substance.

Where there is too high or too low temperature, humidity and dust

Where voltage might be unsteady

Where there might be no correct grounding facilities.

Where children or handicapped people, people with mental illness may possibly reach.

Pay attention to possible pollution lead by frying. Cooker hood shall be fixed wherever fryer locates

### Operation Notice:

Machine shall be operated by dedicated personal with sufficient knowledge of machine operation. The machine is not design for people under working age, or group of handicapped and mental illness.

The cover is designed to keep cleanness and temperature of fryer. Make sure there is no water drop on cover to avoid hot oil splash, which might result in personal injury.

The fryer has to be kept away from customer, to avoid possible personal injury.

Machine has to be moving with care, locating error with carefully, don't slam or hammer the machine.

It is a handle at the back-top of basket. Hang the basket on the rack after fry to get rid of remaining oil. Large food piece may be fried in pot directly.

The maximum working temperature of the pot is 200°C. Whenever there is malfunction of temperature control, the temperature limit control in the control unit will work to cut off heating power. The protecting has manual reset mechanism, only after the temperature is below 150°C could the protect be reset and heating then start again.

### Instruction of malfunction

## WARNING

Please stop using the machine for any malfunction. Then break off power connection and connect distributor. Inform the distributor for the name, type, description of error to get prompt solution.

Don't use the machine in case of any malfunction. The user shall not dismantle or try to repair the machine by itself, except those daily maintenances listed on user's manual, please contact license personals for maintenance or adjustment/setup to avoid possible electrical shock and accident.

Stop using machine is case any oil leaking is discovered. Contact distributor or repair the machine by experienced personal

**Before Using**

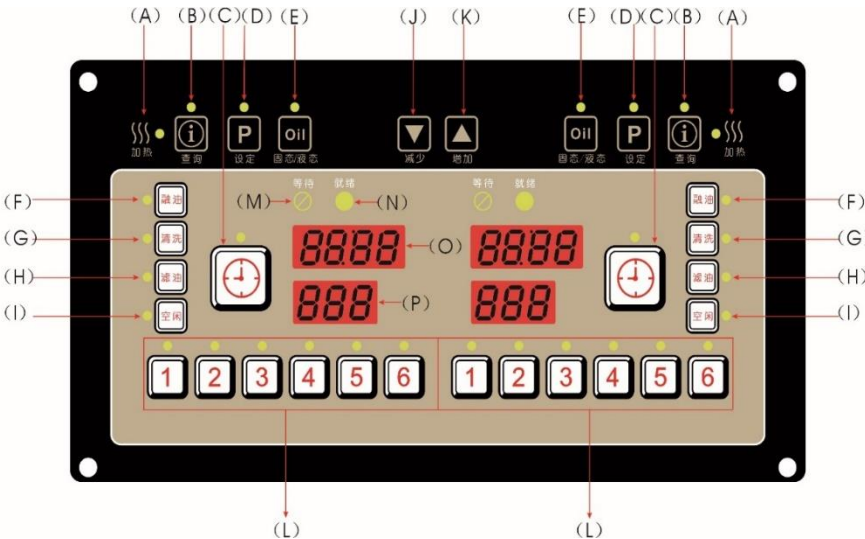
- a. Check if power is firmly connected, according to installation guide.
- b. Proper height of oil level is expected during operation, oil level shall be in between “MIN” and “MAX” mark in the machine.

**II. Technical Data**

Model		
Parameter	OFE-239	OFE-H239
Rated Voltage	3N ~ 380V	
Rated Frequency	50Hz	
Rated Input Power	21.4kW	
Operating Temperature Range	90-190°C	
Electronic Timing	0-59 minutes 59 seconds (adjustable)	
Number of oil pots	2	
Oil Capacity per pot	11.6L+21.5L	
Weight	125kg	145kg
Overall Dimensions	820x600×1175 (mm)	820x600×1210 (mm)
Remarks	/	Automatic rising-lowering

**III.Control Panel Operation Instructions**

**Operation Panel**



## Key Display Description

NO	Illustrate
Heat indicator (A)	When the light is on, the heating is in progress, and when the light is off, the heating is stopped.
Parameter query key (B)	Press the query key repeatedly to view the set time - set temperature - quality time - oil filter times in turn.
Timing start key (C)	Repeatedly press the timer start button, the indicator light indicates that the timer is running; if the indicator light is off, the timer stops..
Parameter setting key (D)	Press the setting button repeatedly to set the timing time - working temperature - quality time - segmental alarm - filter oil selection - heating compensation, and modify the parameters by adding or subtracting.
Solid/Liquid Oil Key (E)	Press the solid/liquid oil key repeatedly, the light on means solid oil; the light off means liquid oil.
Melt key (F)	Press the oil melting button repeatedly, the light on means the oil melting function is activated; the light off means the oil melting function is turned off
Cleaning key (G)	Press the cleaning button repeatedly, the light on means the cleaning function is activated; when the light is off, the cleaning function is turned off. Press the P key to set the cleaning temperature and cleaning time.
Oil filter key (H)	Press the cleaning button repeatedly, the light on means the oil filter function is activated; the light off means the oil filter function is turned off. Press P key to set filter oil temperature
Idle key (I)	Press the cleaning button repeatedly, the light is on to enter the idle mode; the light is off to exit the idle mode. Press P key to set idle temperature
Parameter plus key (J)	
Parameter minus key (K)	
Program group key (L)	Select the program group number, the corresponding indicator light is on to indicate the selected program group.
Wait Indicator (M)	The indicator light flashes to indicate that the operating temperature has not been reached
Ready light (N)	The indicator light is on to indicate that it has reached the working temperature
Timing window (O)	Display working time, oil drain valve status
Temperature window (P)	Display temperature, shutdown status

## Function Description

The controller is mainly used in food fryer, and the operation is simple and convenient. The system adopts high-performance microcomputer control technology, which has the advantages of high temperature control accuracy and simple setting operation. The heating

control adopts advanced PID algorithm control, the baking time adopts countdown control, and the complete and advanced functions meet the needs of multi-level users. The controller output is a relay switch output, and the panel has an LED light-emitting tube to cooperate with the indication when it is in action. It can indicate the working state of the machine concisely and clearly, so that the user can work more safely and conveniently.

## Parameter Editing

In shutdown state, the timing window displays OFF.

**Power On:** The left cylinder window displays LB-C(F)-XX (C means the temperature unit is Celsius; F is Fahrenheit, XX is the controller version number)

The left cylinder window displays LB-C(F)-XX (C means the temperature unit is Celsius; F is Fahrenheit, XX is the controller version number)

Press any program group key, the corresponding indicator light is on, and then press the P key to enter the parameter editing mode:

Code	Instructions
PPR	Working time
PPP	Operating temperature
PR1~PR4	Alarm time (alarm reminder, a total of 4 groups)
PA1~PA4	Alarm sound selection
PFI	Oil filter selection (0=do not count; 1=count)
PCO	Temperature Compensation Sensitivity
PRE	temperature compensation point
PH1	Instant heating on-off
PH2	Instant heating time

## Program Work

**Melting oil:** Press the solid/liquid oil key to select, the solid oil timing window displays LI; the liquid oil timing window displays SO

After about 3 seconds of power on, it will automatically enter the oil melting mode, and you can press the oil melting button to manually exit the oil melting mode. When the oil temperature reaches 110°C, it will exit the oil melting mode and enter the working mode.

Liquid oil heating method: heating according to 50% of the heating cycle.



Solid oil heating method: the heating cycle is 25 seconds, the fixed heating is 5 seconds, and the stop is 20 seconds. When the oil temperature reaches 80°C, it will switch to liquid oil heating mode.

**Cleaning:** Press the cleaning button to open the cleaning function, press the P button to set the cleaning parameters, and then press the timer button to start the cleaning timer.

Cleaning time range: 0~59:59

Cleaning temperature range: 40~90°C (104~194°F)

**Idle:** Press the idle key to enter the idle mode, and the controller controls the temperature according to the idle mode parameters.

Idle mode temperature range: 90~190 (194~374°F)

**Oil filter:** Press the oil filter key to turn on the oil filter function. After the number of oil filters is reached, the controller locks the oil filter working mode. The oil release valve must be opened for oil filter operation. The drain valve is opened for more than 25 seconds. The window displays OPEN and the decimal point lights up. After the oil filter is completed, the oil drain valve can be closed and the work can continue.

Oil filter temperature range: 120~190°C (248~374°F)

**Frying:** Select any edited program group and press the timer button to start the work. When the timing is up, the timing window will display the END buzzer alarm reminder.

When working in subsections, the timing window will display P0~P9, indicating the current program section.

## Alarm code

END: The frying end window displays END, and the buzzer alarms.

FIL: When filtering oil, the filtering oil temperature reaches the set temperature.

HOT: When the actual oil temperature is greater than 210 °C, the over temperature alarm

ERR: Sensor burnout alarm

**Note: When an alarm occurs, the buzzer sounds intermittently to remind the operator to control the fault!**

## Factory parameters

Press and hold the P key in the off state, the timing window will display 0000, enter the password 0008 and press the P key to enter the factory parameters.

Input password 0011, press P key to initialize all parameters.

NO	Range	Factory Set	Function Descriptions
F01	-99~+99°C	0°C	Left basket temperature correction
F02	-99~+99°C	0°C	Left basket temperature correction
F03	0~99°C	15°C	Left basket timing temperature proportional band (0=position heating)

F04	0~99°C	15°C	Left basket timing temperature proportional band (0=position heating)
F05	0~99°C	40°C	Left basket preheat temperature proportional belt (0=position heating)
F06	0~99°C	40°C	Right basket preheat temperature proportional belt (0=position heating)
F07	0~9.9	0	Left basket timing PID operation cycle
F08	0~9.9	0	Right basket timing PID operation cycle
F09	0~9.9	0	Left basket warm-up PID operation cycle
F10	0~9.9	0	Right basket warm-up PID operation cycle
F11	0~99 S	30S	Left basket timing temperature output cycle
F12	0~99 S	30S	Right basket timing temperature output cycle
F13	0~99 S	30S	Left basket preheat temperature output cycle
F14	0~99 S	30S	Right basket preheat temperature output cycle
F15	0~F11 S	1 S	Left basket temperature output minimum
F16	0~F12 S	1 S	Right basket temperature output minimum
F17	0~F13S	5S	Left basket preheating temperature output minimum
F18	0~F14S	5S	Right basket preheating temperature output minimum
F19	1~99S	10S	Minimum time for the left basket to enter proportional belt buffer for the first time (automatically adjust in the minimum and maximum range according to the heating speed)
F20	1~99S	10S	Minimum time for the right basket to enter proportional belt buffer for the first time (automatically adjust in the minimum and maximum range according to the heating speed)
F21	1~99S	20S	Maximum time for the left basket to enter proportional belt buffer for the first time (automatically adjust in the minimum and maximum range according to the heating speed)
F22	1~99S	20S	Maximum time for the right basket to enter proportional belt buffer for the first time (automatically adjust in the minimum and maximum range according to the heating speed)
F23	0~P Values	0°C	Left basket timed ahead to enter the minimum output

F24	0~P Values	0°C	Right basket timed ahead to enter the minimum output
F25	0~P Values	15°C	Left basket is preheated ahead to enter the minimum output
F26	0~P Values	15°C	Right basket is preheated ahead to enter the minimum output
F27	0~9.9°C	2.0°C	Left basket temperature dead zone (valid in bit mode)
F28	0~9.9°C	2.0°C	Right basket temperature dead zone (valid in bit mode)

#### User parameters

Press and hold the P key in the off state, the timing window will display 0000, enter the password 0008 and press the P key to enter the factory parameters.  
Input password 0018, press P key to initialize all parameters.

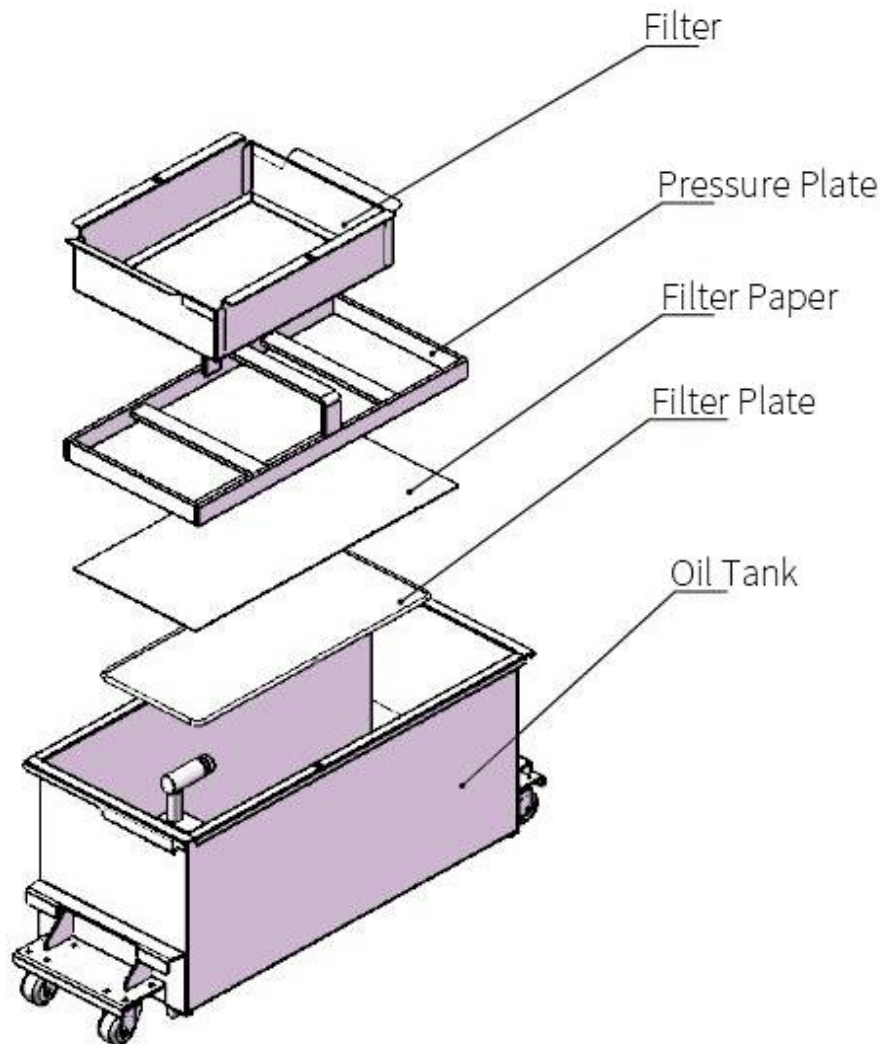
NO	Range	Factory Set	Function Descriptions
U01	0~99	10	Number of times the left basket oil filter is locked (0=not used)
U02	0~99	10	Number of oil filter locks in the right basket (0=not used)
U03	°C/°F	°C	temperature unit
U04	0~99	20S	Alarm time
U05	0/1	0	Whether the left basket enters idle after the oil is melted
U06	0/1	0	Whether the right basket enters idle after the oil is melted
U07	YES/NO	YES	Turn off the heat after the left basket is timed out
U08	YES/NO	YES	Turn off the heat after the right basket is timed out

#### IV. Other Instruction for Operations

- Take off lid if it is detachable, cover pot when cook finishes.
- Cut off power when fryer is not in use to ensure safety.
- Cut off power; wait until oil inside of fryer cools down before cleaning up oil from pot. Put oil sink under the fryer. Open oil relief valve, same like when installation is processed.
- To make sure that the fryer is safe and durable, users shall clean residual in oil and contaminations on heaters to ensure oil and heater functions correctly and in clean status. Use may set oil filtration procedure in control panel and follow the procedure when oil filtration is processed.

- v. An oil filter pump is installed at the rear and bottom of the machine. If oil needs to be filtered, close the oil drain valve, press the pump oil switch on the front panel to the "I" position, and open the oil release valve handle switch to start oil filtering. In order to clean the oil and remove the dregs, the oil filter should be covered with clean oil filter paper, and a new oil filter paper should be replaced each time it is used, please refer to the " Oil filter paper placement diagram" section.
- vi. Power shall be cut off as soon as we find pump motor can't be started. The reason might be pump head is clogged by oil residuals. In this case pump head shall be disassemble for cleaning, motor maybe damaged when it can't start for a period of time. For the disassembly of oil pump, please refer to the "Oil pump diagram" section.
- vii. Pay attention to oil level when oil is filled, oil level filled shall be controlled in between top and bottom limit.
- viii. It is strictly forbidden to pump oil without oil filter paper installed.

## V. Oil filter paper placement diagram



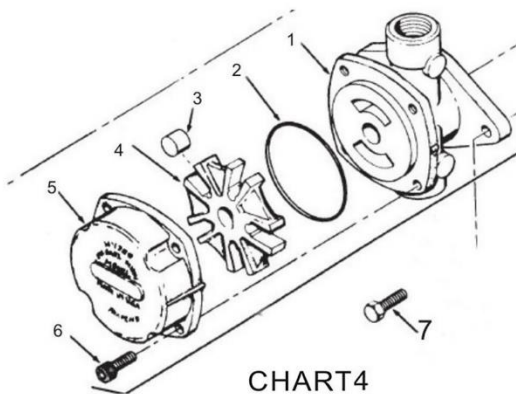
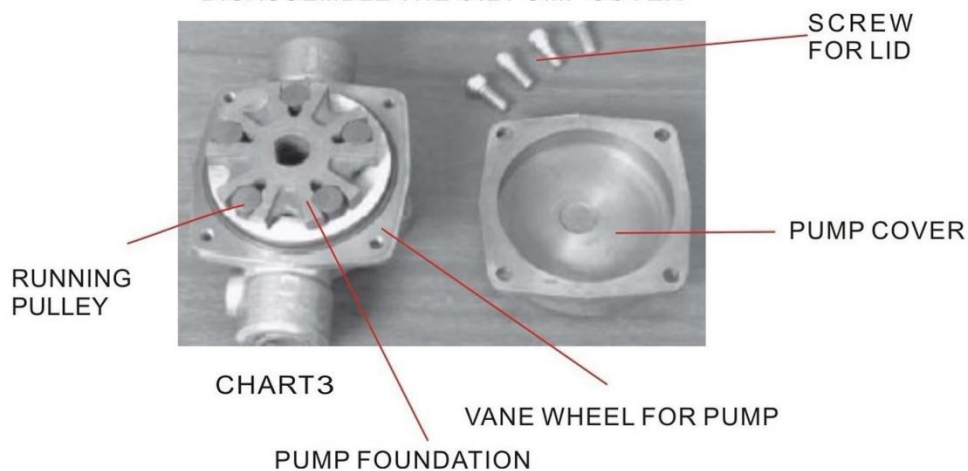
## VI. Oil Pump Diagram



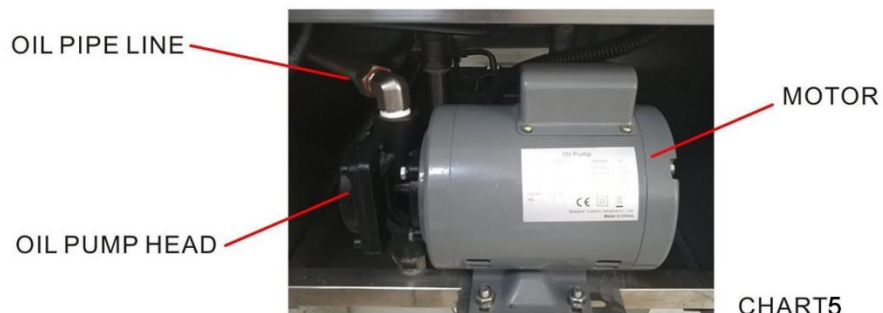
CHART2

PUMP HEAD IS THE MAIN PART FOR OIL PUMP IT NEEDS TO BE CLEANED AND KEPT MAINTENANCE DAILY. WHEN YOU DISASSEMBLE IT, FOLLOW UP THE FOLLOWING CHART

DISASSEMBLE THE OIL PUMP COVER

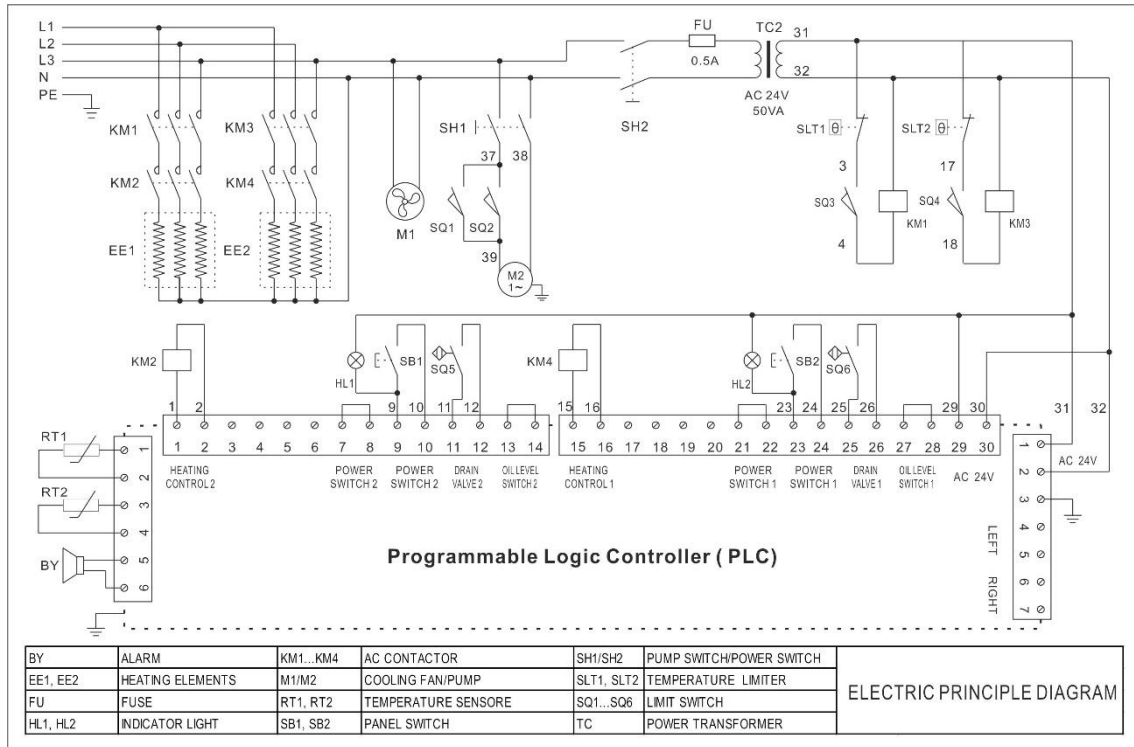


1. PUMP FOUNDATION
2. SEAL RUBBLE
3. RUNNING PULLEY
4. VANE WHEEL
5. PUMP COVER
6. FASTENING SCREW FOR PUMP
7. FIX SCREW FOR PUMP HEAD



## VII. Electric Principle Diagram

### i. OFE-239 Electric Principle Diagram



### ii. OFE-H239 Electric Principle Diagram

