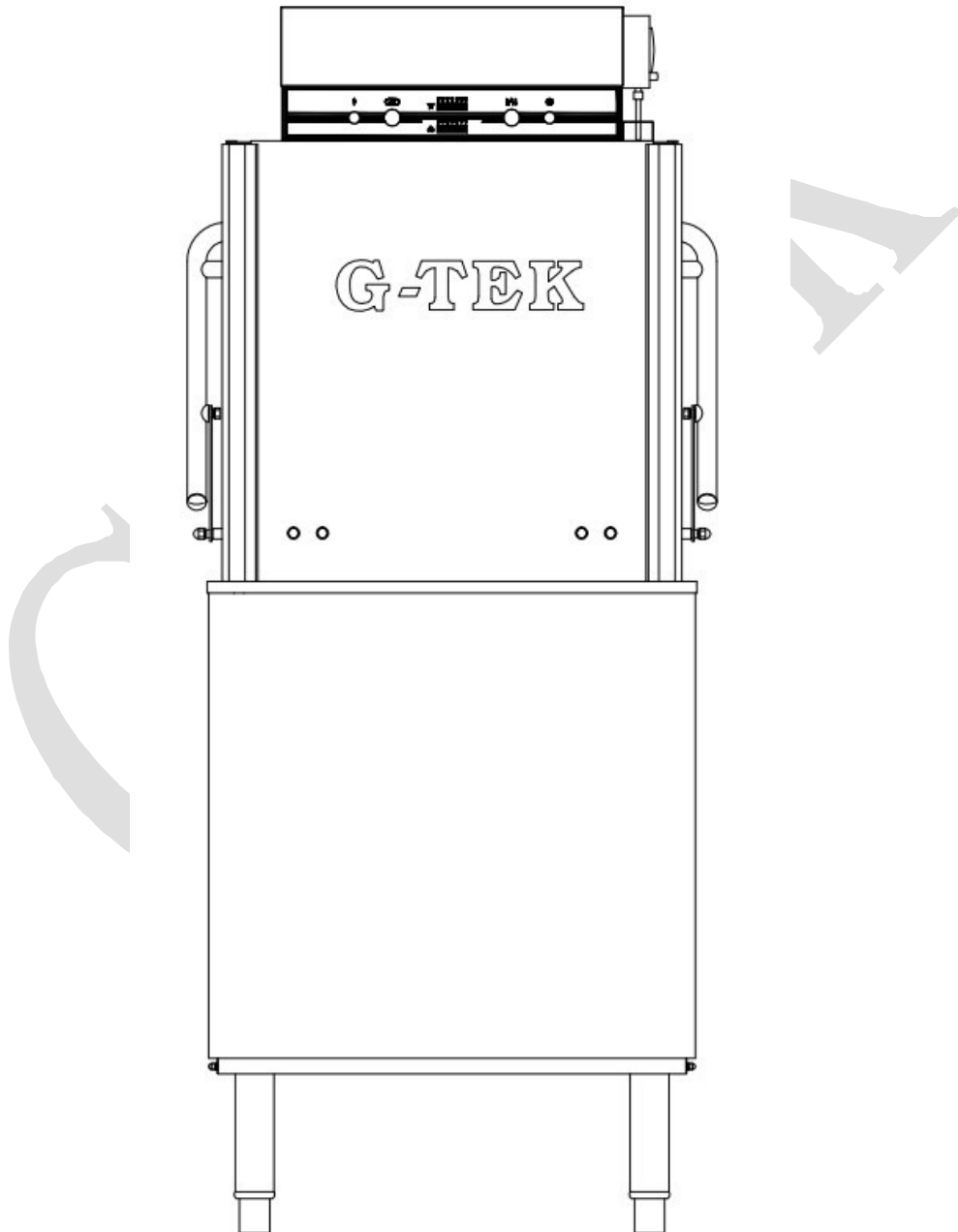


Global-Tek Machinery Pte Ltd

Instruction & Installation Manual

Model – D1M/BD



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CONTENTS

OVERVIEW	3
INSTALLATION	4
Select the right location for installation	5
Convert from straight-through to corner operation	5
Power connection	6
Water connection	7
OPERATION	8
Control panel	8
Preparation works	8
Washing procedures	9
Cleaning the machine	9
MAINTENANCE	10
TROUBLE SHOOTING	11

APPENDIX: Electrical wiring diagrams (control circuit page 12 - 14)

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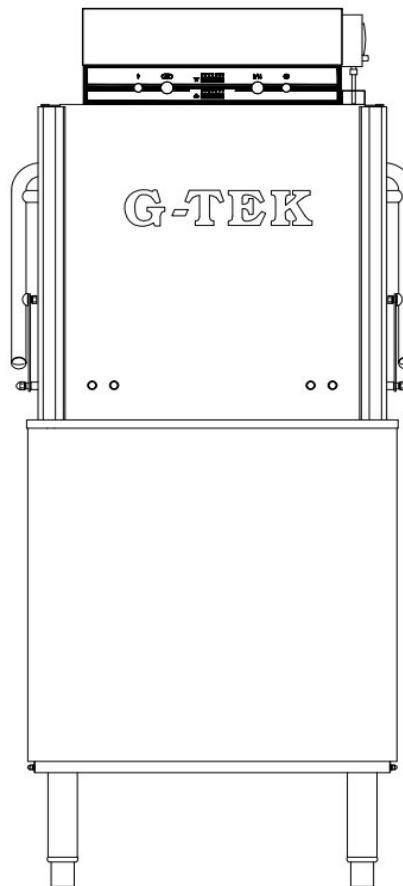
Model D-1M/BD

Installation, operation & maintenance

OVERVIEW

D-1M/BD dishwasher is a rack loading fully automatic dishwashing machine with built-in chemical dispenser, three adjacent sides can be lifted to open for loading or unloading rack. When the wash tank is filled up to the required water level, once the doors closed, the machine will automatically run main wash and rinse programs; if tank water level goes down, water will be automatically filled into tank until required water level is reached, then once again as the door is closed, it starts to run another cycle.

The machine is built with 2 x 4.5 Kw booster heaters, a 3 Kw heater has built for the wash tank.



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INSTALLATION

Before installation, please read this manual placed on the rack inside machine, make sure to verify the electrical power supply. Right after the packing is opened, please examine the machine immediately for any damage caused during transportation. If any, please keep all the packing materials, and inform the supplier within 3 days.

Select the right location for the machine

It is important to put the dishwasher at the right place for operation. Before deciding a proper position, please consider the connection of power supply, water supply, drainage, gas heater (if needed), working tables and detergent dispenser (to be provided), as long as the required space for daily maintenance and ceiling height for opening machine door. (See diagram 1)

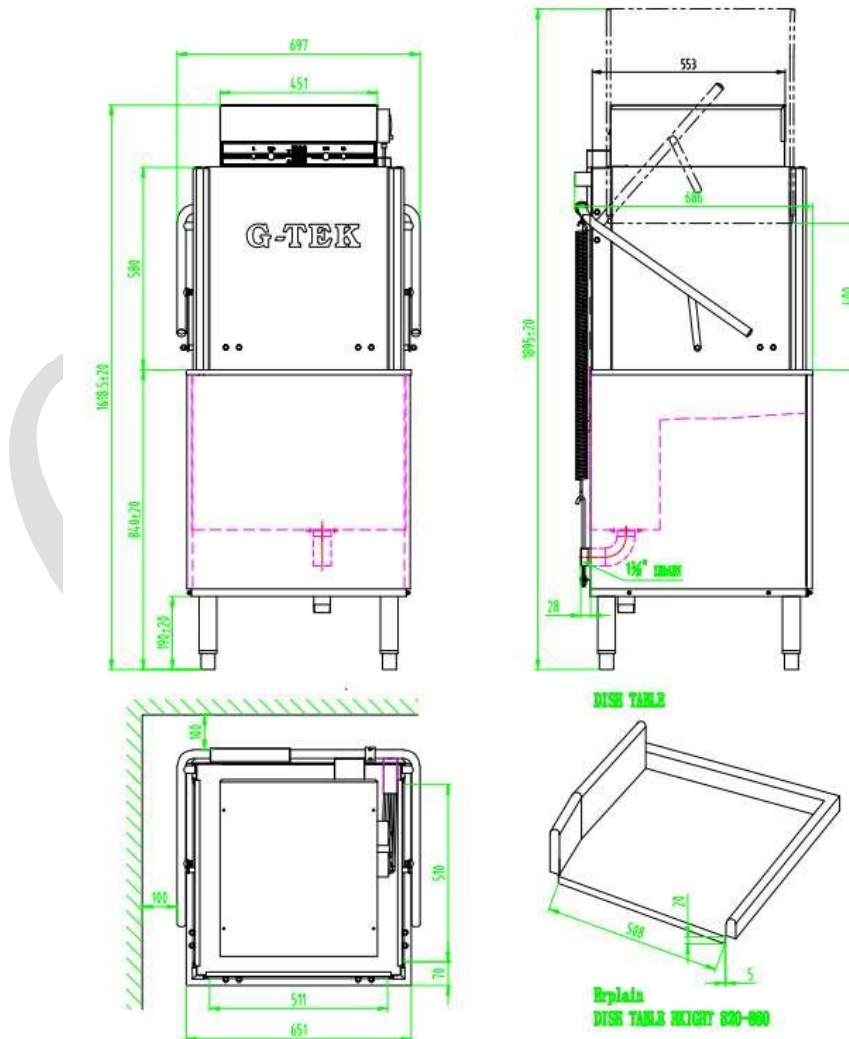


Diagram 1

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The machine must be horizontally placed for all electrical and water connections. To reach the desired height level and maintain balance, turn the adjustable foot accordingly.

Stainless steel working table have to be linked up with the dishwasher, by overlapping onto the tank shell of the machine (see diagram 2), and then put silicon gel on the gap in order to avoid leakage.

Maybe the local regulation requires to install exhaust hood or ventilator (to be provided by other supplier), if needed, the required exhaust airflow should be at least 2.8m³/min.

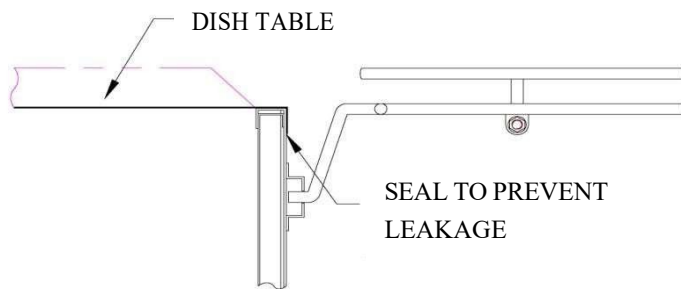


Diagram 2

CONVERT FROM STRAIGHT-THROUGH TO CORNER OPERATION

For corner operation, remove the rack guide and baffle (Diagram.3) from the front, Assemble the rack guide on the side and use screw to re-install the baffle in the front.

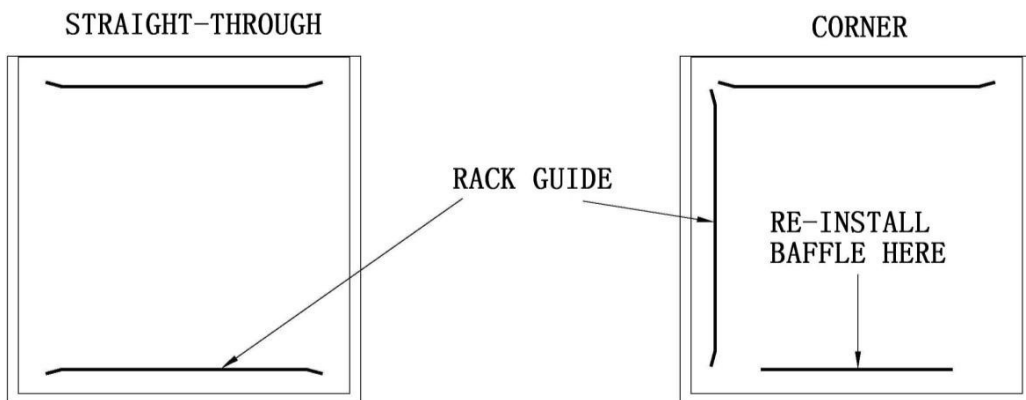


Diagram 3

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Power connection

- ⚡ Warning: All connection of electricity and grounding must comply with any applicable ordinance of the national or local electrical law.
- ⚡ Warning: Shut off power supply, hoist caution sign nearby, to alert anyone **NOT** to power on. Please read carefully the electrical wiring diagram as shown on the machine case, properly connect power cables with the designated terminals.

Signal terminals for connecting detergent dispenser (to be provided by other supplier)

In the electrical control box, connect **2FU & N** terminals with the **detergent signal** power of the dispenser, connect **3FU & N** terminals with the **rinse signal** power of the dispenser (see diagram 4), but each power loading must **not exceed 3A**. During wash program, 2FU provides 220V output; during rinse program, 3FU provides 220V output. Please refer to the electrical wiring diagram on the machine case.

- Attention: The pull out distance of the electrical box should be put into consideration for all the wire connections, to prevent wires from loosening.
- Attention: Please use 300/500V sealed electrical wire, **never use telephone wire.**

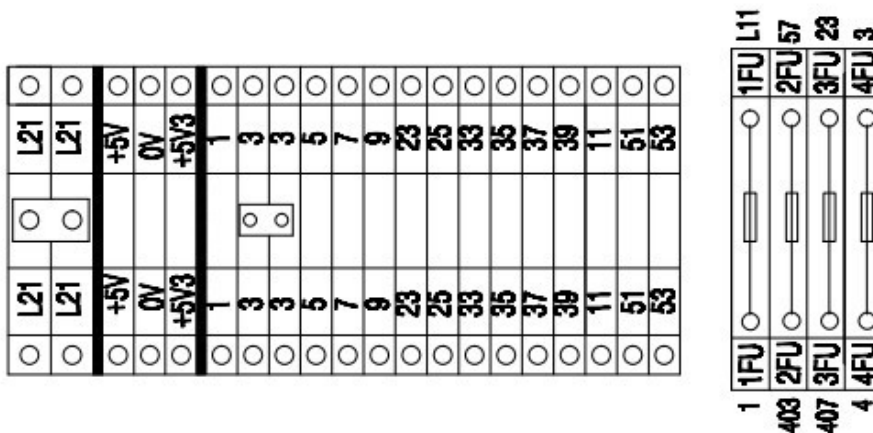


Diagram 4

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Water connection

- ⚡ Warning: Water pipe connection must comply with relative local hygiene safety ordnances and plumbing code.

Water supply

Connect the water inlet hose (3/4"thread) with water supply valve.

Relative heating power	Water inlet temp.		Water flow pressure	
	°C	°F	kpa	kg/cm ²
2 x 4.5 kW rinse heating	50~60	122~140	29.4~49	0.3~5

Caution: check water inlet pressure after connection, if flowing pressure below 0.3kg/cm², a water pressure pump (not included in this machine) is needed, if static pressure is higher than 5 kg/cm², a water pressure reducer (not included in this machine) is needed.

Drainage

Connection the drain pipe (1¹/₂"") under the wash tank with an appropriate drainage (drain capacity should be at least 95.5 L/min.)

Injection of drying agent

Remove the front panel of the machine, at the upper right hand corner of the booster heater, there is an injection inlet for drying agent. Remove the plug at the inlet, and put in a check valve for injection of drying agent.

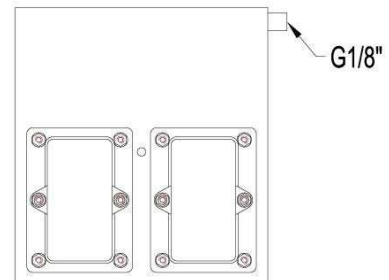
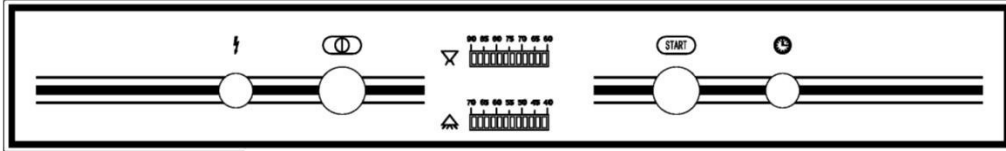


Diagram 5

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OPERATION

Control panel



Power I / 0 Press the power switch, power light on, indicates power connected; Press again, power light off, indicates power shut down.

Power light Power light on, means the machine is ready to use.

Cycle time Default setting is one minute per rack.

Cycle light Cycle light on, means dishwashing processes is in progress; cycle light off mean programs finished.

Temp. light Indication on top shows rinse temp.
Indication underneath shows wash temp.
Green lights on indicate working temp. at HACCP certified range.

Recommended operating temperature

Main wash temp.	60 °C -65 °C (140 °F -150 °F)
Final rinse temp.	82 °C -85 °C (180 °F -185 °F)

Auto-start Close the door, the machine will automatically process wash and rinse programs.

Drain To drain tank water, lift up the overflow pipe.

Preparation works

- ◆ Properly place the scrape trays and basket into the machine, and plug-in the overflow pipe.
- ◆ Close the door and turn on power, water auto-fill starts.
- ◆ Once water is full, open door and check water level. Turn on the detergent dispenser (follow supplier's instruction).
- ◆ Close the door, then wash and rinse programs will automatically start.

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- ◆ Wait until wash temperature reaches proper range before start to wash.

Washing procedures

- ◆ Scrape off food residues from dishes.
- ◆ Property load tableware into racks, by the manner that all the surfaces of every piece of tableware should have adequate exposure for water flushing. Dishes are to be vertically inserted, and bowls should be inversely put into plate rack; cutlery, chopsticks have to be dispersed loaded in open rack; and glasses must be inserted into compartment rack.
- ◆ When a rack is full loaded, open the door, put in rack and close the door, wash and rinse will proceed automatically. Main wash program starts as the door is closed, and final rinse program will follow right after wash finished.
- ◆ When wash & rinse programs ended, wait for a second until cycle light off, open the door and pull out the washed rack, then send in another rack, close the door and continue to wash. In the mean time, collect those clean and dry dishes.
- ◆ Whenever cycle starts, door should not be opened; it's a danger of hot water splashing. After each cycle, wait until cycle light off, so as to open safely.

Cleaning the machine

Recommended to clean thoroughly all interior parts of the machine after each shift (every meal or at least once a day).

Cleaning procedures :

1. Shut off power.
2. Open the door.
3. Clean working tables, and scrape off wasted water into machine.
4. Lift up overflow pipe to drain tank water.
5. Remove scrape trays, basket and pump intake screen, dump the residues (but not to crash, otherwise, change in shape may result in poor straining effect) and clean the equipment.
6. Flush to clean the interior of the machine, thoroughly wash away all the dirt inside.
7. Put all the straining equipment back to place.
8. Check every upper and lower spray jets for clogging, if there is any, use a narrow pin to clear obstruction or remove the spray arms to clean.
9. Keep the door open to let air dry, in order to prevent mould from growing.

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MAINTENANCE

⚡ Warning: Shut off power supply, hoist caution sign nearby, to alert anyone **NOT to power on.**

Wash and rinse arms

Both upper and lower wash and rinse arms could be rotated freely for a few seconds by gently swinging. Turn off the machine before testing, and remove obstruction if exists.

If the straining equipment is not in place, then the wash arms and jets may be clogged. If happened, unload the wash arms for cleaning.

To unload the wash and rinse arms, just unlock the thumb screws, between the bearings of both arms.

Attention: the O-ring seat of the lower wash arm should not be removed.

When unloading the upper arms, hold the arm tightly during unlocking the thumb screw, to avoid falling down.

Both sets of upper and lower arms can be exchanged for operation.

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TROUBLE SHOOTING

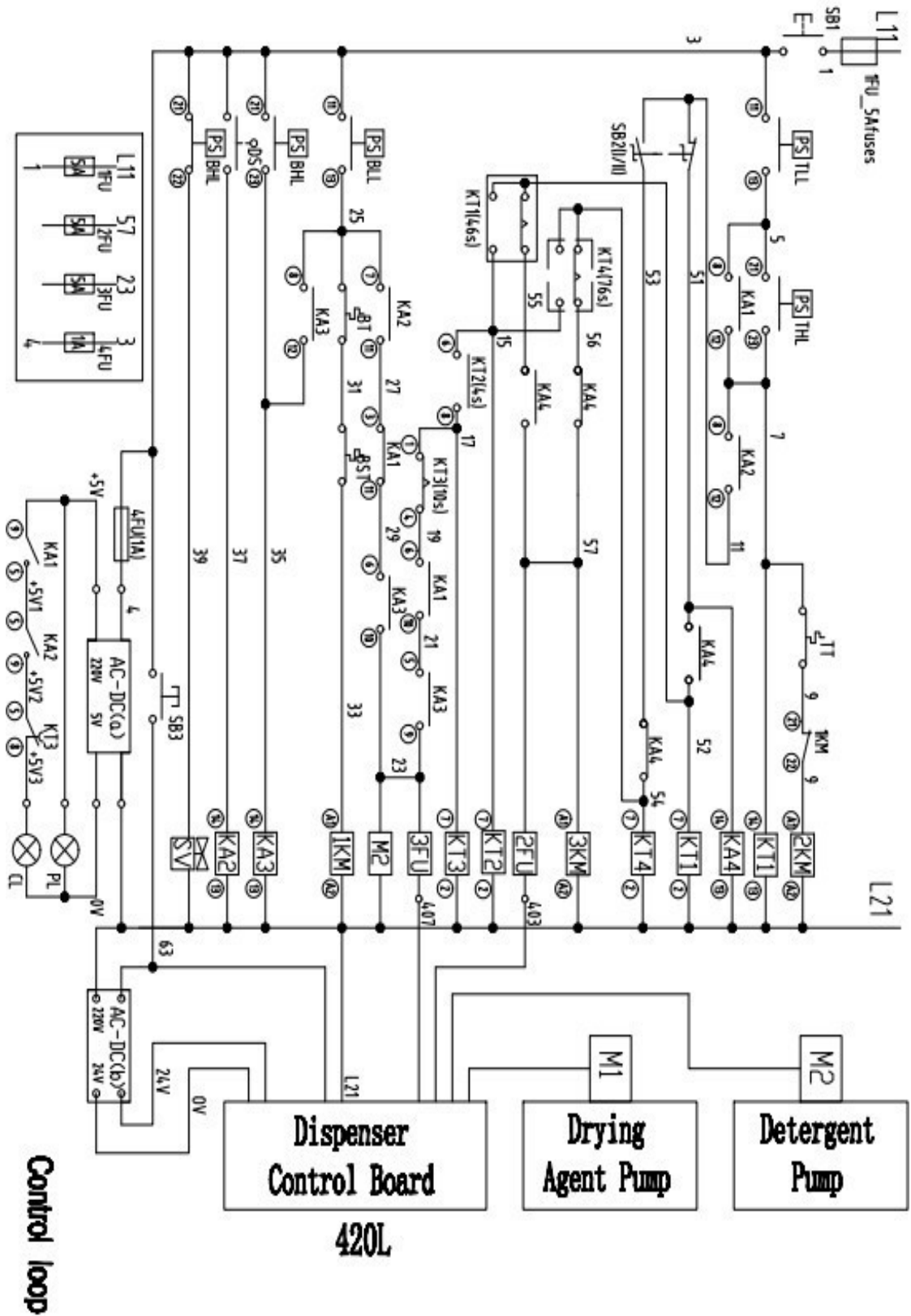
This chapter only provides some general methods for problem solving. If problem persists, please contact skilled personnel.

Common problems	Possible reasons and easy solutions
Machine cannot be started	<ol style="list-style-type: none"> 1. Open the door for at least 2 seconds then close the door 2. Fuse blown or jumper disconnected. 3. Check the fuse of the control circuit. 4. Check door magnet switch located behind the machine
Rinse remains at low temp.	<ol style="list-style-type: none"> 1. Check rinse thermostat. 2. Water fill pressure or flow volume is too low, caused low water level in booster heater. 3. Check booster heating elements.
Poor wash results	<ol style="list-style-type: none"> 1. Wash spray is too weak due to clogged pump intake. Power off and drain tank water, check wash pump intake for any obstruction. 2. Wash temp. is too low. Inadequate pre-heating time, or check the thermostat and wash tank heating element. 3. Imprecise detergent dosage. 4. Excessive lime build-up. 5. Improper racking
Streaks found on ware washed	<ol style="list-style-type: none"> 1. Improper racking. 2. Rinse temp. is high or too low. 3. Clogged pump intake. 4. Abnormal water hardness. 5. Wash detergent does not suit local water quality. 6. Rinse drying agent not suit local water quality. 7. Improper dosage of the cleaning chemicals.
Inadequate rinse pressure	<ol style="list-style-type: none"> 1. Faulty solenoid valve. 2. Water supply pressure is too low. 3. Rinse jets clogged. 4. Faulty rinse pump.
Continue fill or cannot fill water	<ol style="list-style-type: none"> 1. Tiny obstruction entered the fill solenoid valve, resulting in abnormal functioning. Caution: detail checking right after installation is very important, small chips may go inside into the piping and being stuck inside valve. Power off, open the solenoid valve and clean all the interior parts, then fix up.

REPAIRING

If the machine needs repairing or adjustment, please contact local authorized dealer.

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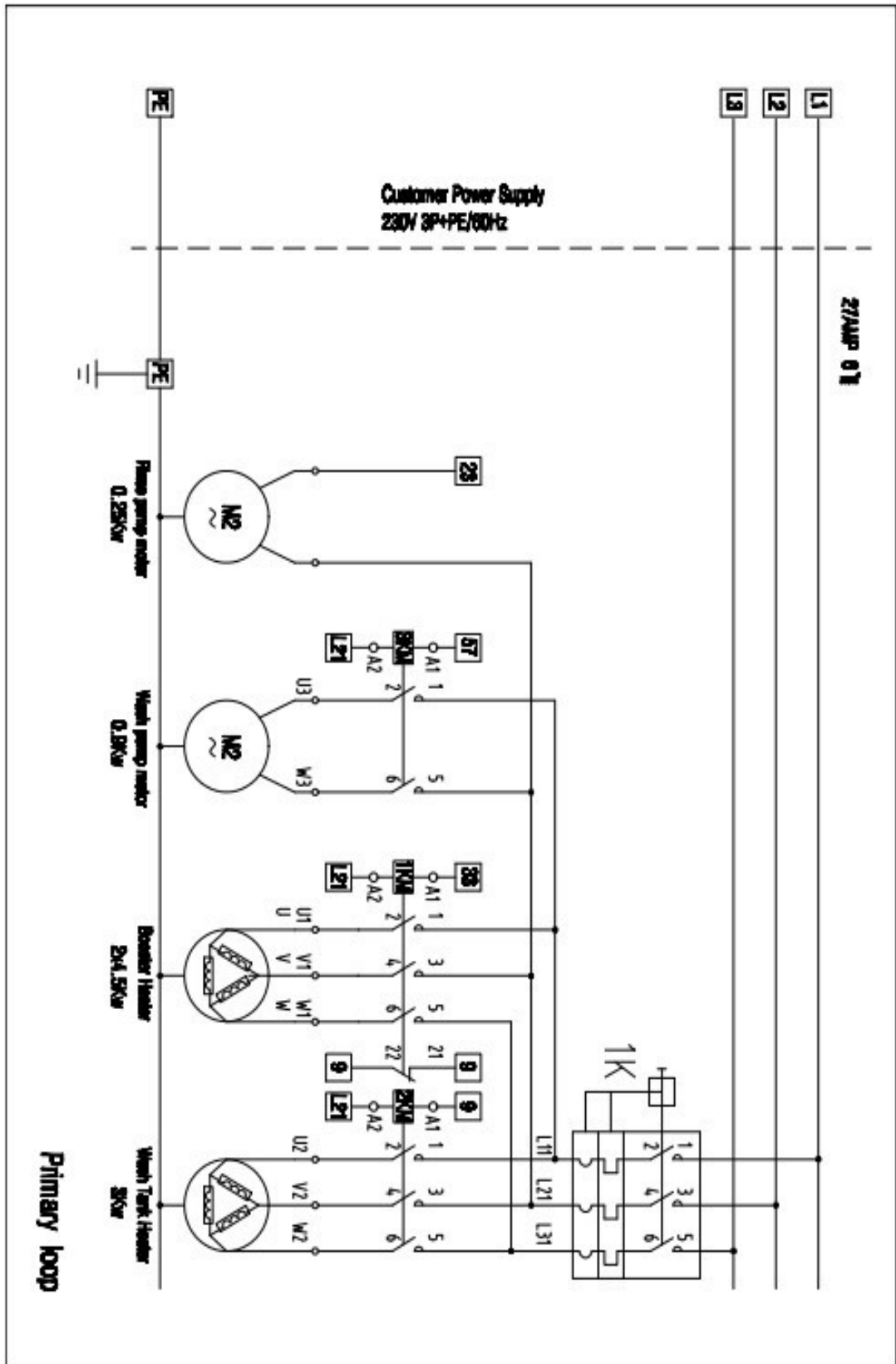
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1FU	Control fuse
2FU	Wash pump signal
3FU	Rinse pump signal
4FU	Converter fuse
KT1	(46s) wash cycle timer I
KT2	(4s)delay timer
KT3	(10s)rinse cycle timer
KT4	(76s) wash cycle timer II
1KM	Booster contactor(3p)
2KM	Tank heater contactor(3p)
3KM	Wash pump contactor(1p)
M2	A water pump(1P)
DS	Door switch
SV	Fill solenoid
SB1	Power switch
PS	Pressure switch
THL	Wash tank high level
TLL	Wash tank low level
BHL	Booster high level
BLL	Booster low level
BST	(110°) Over heat
BT	(86°)Booster thermostat
TT	(82°) Tank heater thermoetat
KA1	Wash tank high level relay
KA2	Door switch relay
KA3	Rinse pump relay
KA4	Interlock intermediate relay
SB2	Wash Time Selector
PL	Power lamp
CL	Run lamp
AC-DC(a)	Convertor(220V-5V)
SB3	Power switch
M1	Drying Agent Pump
M2	Detergent Pump
420L	Dispenser Control Board
AC-DC(b)	Convertor(220V-24V)



Control loop

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