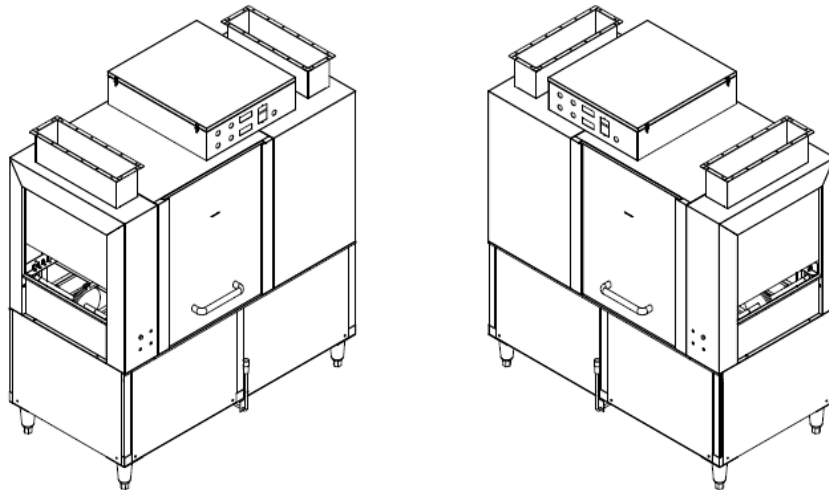


RACK CONVEYOR DISHWASHER
DRC-1G(E)
MANUAL



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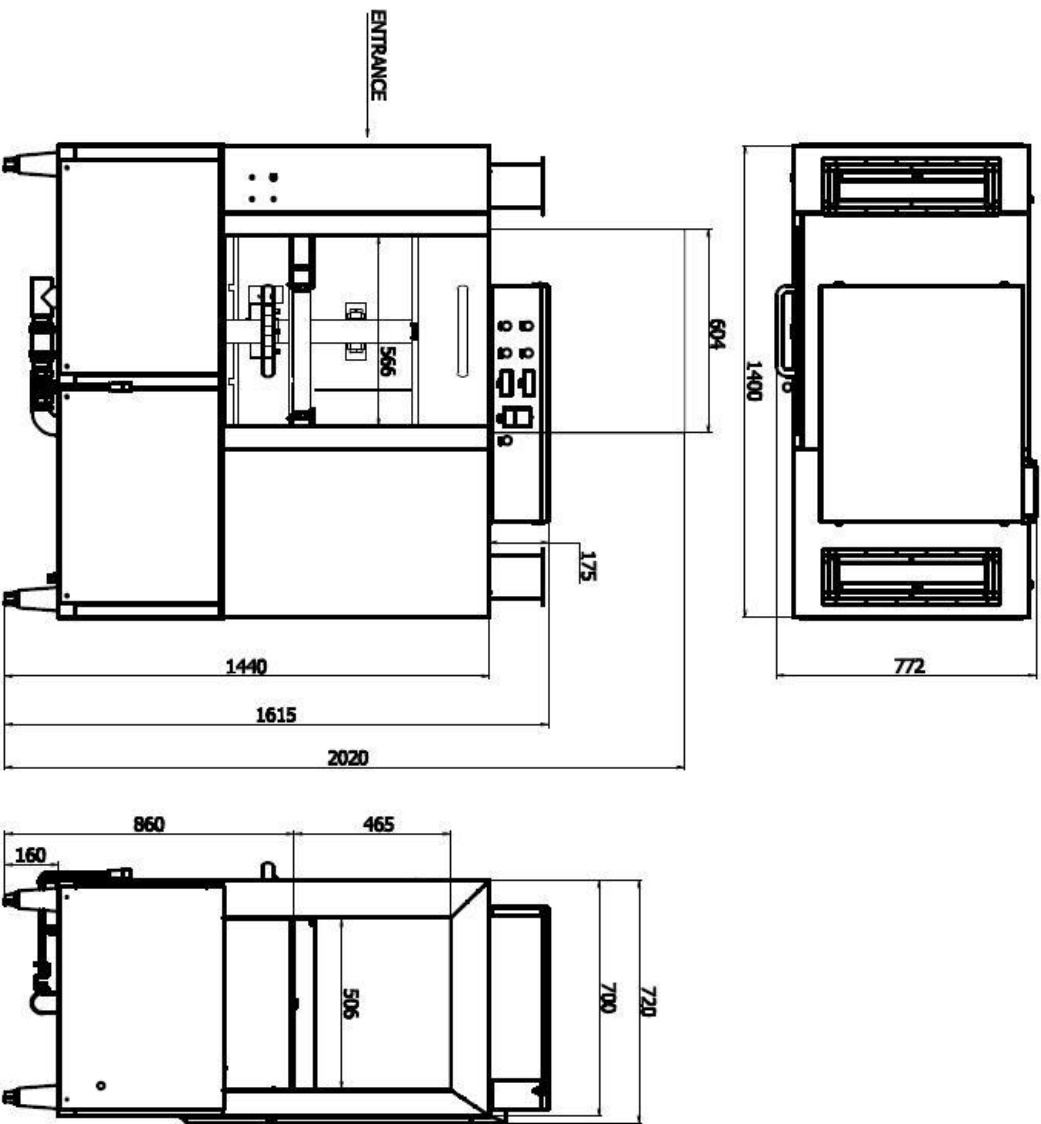
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1. Specifications and Dimensions

MODEL	DRC-1(Dolphin Rack Conveyor Dishwasher)	
	DRC-1G(L/R)	DRC-1E(L/R)
DIMENSIONS	STANDARD TYPE	STANDARD TYPE
	1,400(L)×720(W)×1615(H)mm	1,400(L)×740(W)×1445(H)mm
TYPE	GAS TYPE	ELECTRIC TYPE
<p>1. MATERIALS : STS-304 1.0T, 1.2T, 1.5T 2.0T</p> <p>2. ELECTRIC SPECIFICATIONS : 380V 3Ph 4 wired, 220V 1Ph</p> <p>3. ELECTRIC CONSUMPTION : 5.8 KW (GAS TYPE), 36.7KW(ELECTRIC TYPE)</p> <p>4. WASH PUIMP : 1.7kw(220V 1Ph & 380V 3Ph, 500 L/min)×1ea</p> <p>5. WASH TANK CAPACITY : 80 Liter×1ea</p> <p>6. WASH TEMPERATURE : 60℃~70℃</p> <p>7. HEATING ELEMENT FOR WASH TANK : 4 KW x 1EA</p> <p>8. WASH TYPE : POWERFUL WASH</p> <p>9. GAS BOOSTER : INSTANT GAS BOOSTER BY LNG OR LPG 2~3 UNIT OF GAS BOOSTER(W/O TANK) OR <u>1 UNIT OF GAS BOOSTER(W/ TANK)</u></p> <p>ELECTRIC BOOSTER: 27KW ELECTRIC HEATER EQUIPPED</p> <p>10. WATER CONSUMPTION : WASH TANK – 80 L×1EA RINSE WATER CONSUMPTION – 600 L/hr</p> <p>11. HEAT QUANTITY : FOR WASH TANK – 4,400 Kcal/h FOR RINSE TANK – LNG 42,000 Kcal/h, LPG 3.5 kg/h ※DEPENDING ON KITCHEN ENVIRONMENT</p> <p>12. CONVEYOR SPEED : 0-2 M/min(SPEED CONTROL MOTOR: 180W, SPEED CONTROL AVAILABLE)</p> <p>13. NOZZLE TYPE : WASH NOZZLE – UPWARD & DOWNWARD ROTATING FIXED NOZZLE(REMOVABLE) RINSE NOZZLE – UPWARD & DOWNWARD FIXED NOZZLE(REMOVABLE)</p> <p>14. SAFETY DEVICE : OVERLOAD RELAY EMERGENCY SWITCH AT INLET AND OUTLET</p> <p>15. WASH CAPACITY : RACK 170-180EA/HOUR (CONVEYOR SPEED 1.5 M/min) ※DEPENDING ON USAGE ENVIRONMENT</p> <p>16. OTHER SPECIFICATION : GAS – INSTANT GAS HEATER 16L(W/O TANK), 15A, 2.6 Kg/h INSTANT GAS HEATER 16I(W TANK), 15A, 3.5 Kg/h TAP WATER CONNECTION – PRESSURE:1.2 Kg/cm², PIPE : 15A OVER, DRAINING CONNECTION – 40A OVER PIPE AT BOTTOM OF THE M/C</p>		

□.DRC-1E(L) LAY OUT



Technical Features		Unit	DRC-1E(L)
Washing capacity		Basket/hr	180
Tank	Pre-wash	lt	-
	Main wash	lt	80
	Boiler	lt	18
Motor	Pump pre-wash	kW	-
	Pump main wash	kW	1.5
	Pump Rinse	kW	-
	Drying Fan	kW	-
Heater	Pack Driving	kW	0.18
	Heat power (Wash)	kW	8
	Heat power (Rinse)	kW	27
	Heat power (Dry)	kW	-
Water	Water Consumption	lt / hr	360
	Washing water temp.	° C	55
	Rinsing water temp.(6lit/min)	° C	85
	Feed Water Temp.	° C	min. 20
	Feed Water Pressure	Bar	2-8
	Hardness	°F	-
	Feed Water Connection		1/2"
Gross weight		kg	220
Discharge Connection			1-1/2"
Dimension			
	W	mm	1400
	D	mm	720
	H	mm	1615
	H ¹	mm	2020
Electricity			
	Electricity connection		380V/60Hz
	Total rating	kW	36.7
	Breaker	A	75
	Main Supply Cable	mm ²	5x14

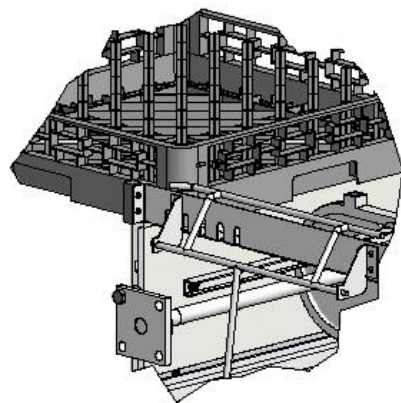
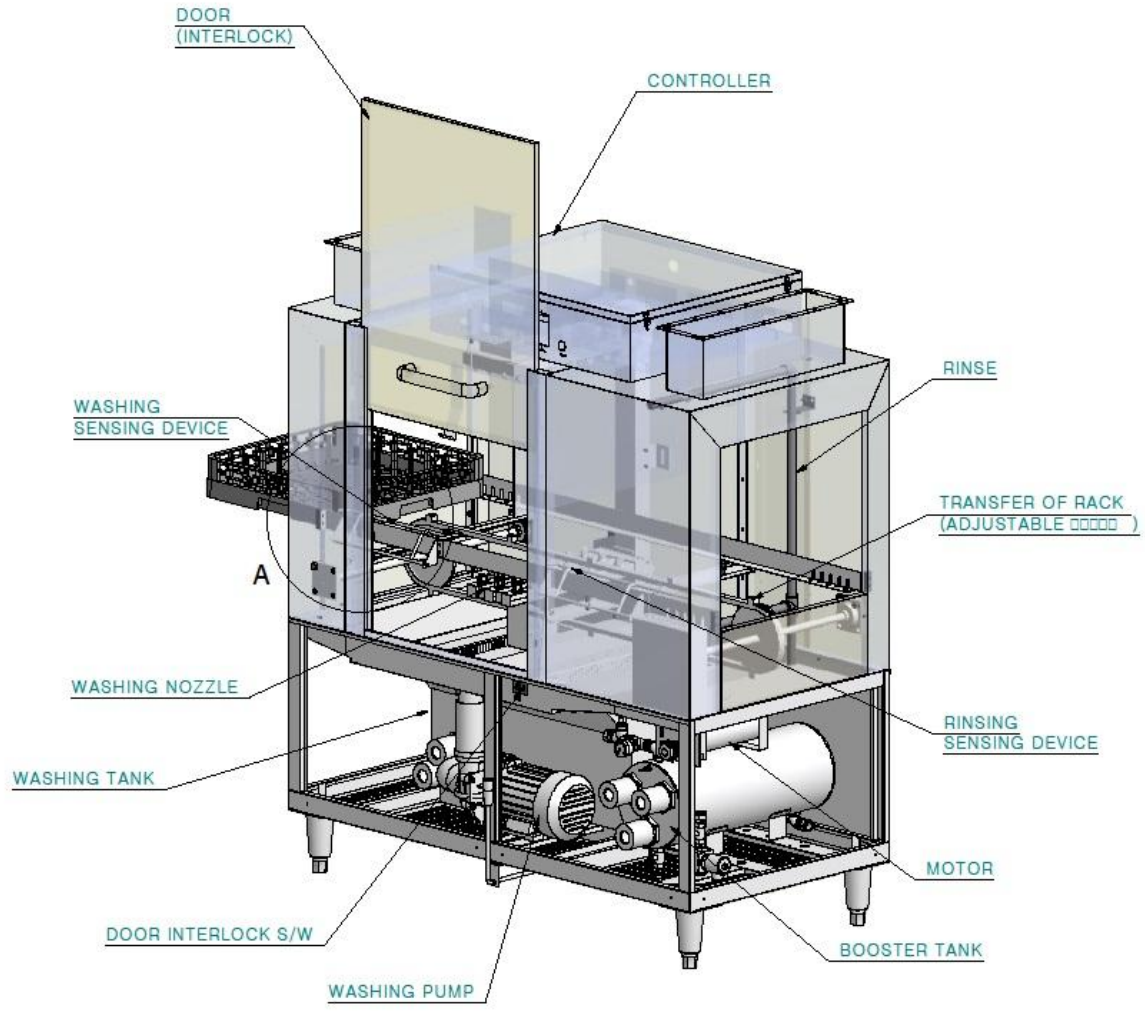
*.MAX DISH SIZE : 430mm

2. DRC Features

© Rack Conveyor Dishwasher Features

- ① Automatically moving and washing the tableware in the rack
- ② Conveyor speed is easily controlled depending on operation environment
- ③ Economic system saving water and energy
- ④ Conveyor system washing the various tableware
- ⑤ Easy installation in the small space
- ⑥ Right/Left style available for kitchen structure
- ⑦ The strong washing/rinsing efficiency by close washing/rinsing nozzle
- ⑧ Safety system by automatically shut down when overload

3. Parts Name



4. Usage

1) Pre-check for operation

- ① clean the inside of dishwasher.
- ② remove the food stuffs on the strainer.
- ③ remove the debris on the nozzles of wash and rinse.
- ④ clean the debris and scale in the wash tank.

2) Notice on operation

- ① never turn dishes upside down.
- ② don't put others except for dishes.
- ③ don't load over 300mm height dishes.

3) Preparation for wash

- ① close the drain valve.
- ② check damaged main electrical cable.
- ③ open all watering valves.
- ④ turn on the switch (check red lamp flickering)

(start watering when ON and stop watering when full, then when green lamp flickering, it's ready sign)

4) Washing

① don't operate till wash temperature 50~60℃.

② turn on start switch.

Automatic: automatic wash water sprayed on rack loading

Manual: wash water sprayed continuously

③ check pump working and its noise.

④ check conveyor and emergency switch.

⑤ check rinse aid and detergent.

⑥ load the rack into inlet smoothly.

⑦ press emergency button when machine malfunctions.

5) Check after work

① check no dishes inside of dishwasher.

② turn off the power switch if finished up the work.

③ open drain valve for draining.

④ take food stuffs off out of strainer.

⑤ clean the inside of dishwasher.

⑥ close all valves.

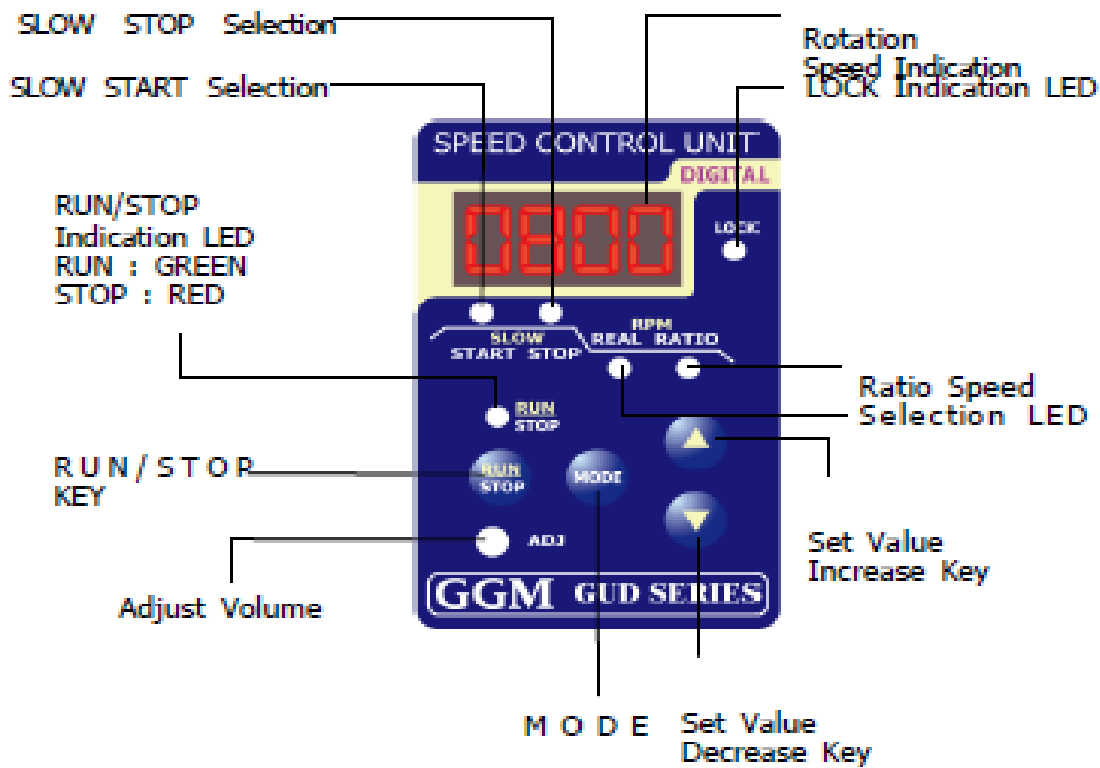
6) Usage of Speed controller (GUD-C)

① press "mode" button twice with switch on.

② set the speed with ▲ or ▼ button.

③ the speed will be set after 10 sec. if no changing.

▣ DRC-1HE CONTROLLER & SPEED



LOCK ON : MODE S/W 7 TIMES PUSH

LOCK OFF :

1. AUTO/MANUAL S/W -> MANUAL
2. SPEED CONTROLLER RUN/STOP S/W PUSH
& MAIN POWER S/W ON

SPEED ADJUST

MODE S/W TWICE PUSH -> UP & DOWN

STANDARD : 800 (THIS IS MOTOR RPM.)

5. Maintenance

1) Keep the machine clean

- ◎ make it sure to clean remains inside of machine after work.
- ◎ remove remains on strainer after work.
- ◎ wash the food stuffs out on the wall and bottom of machine.
- ◎ frequently check no stuffs on washing nozzle and rinsing nozzle, be sure to remove stuffs.
- ◎ It may get stained by remained chemicals on surface of machine, wipe it out carefully and keep it clean.
- ◎ When don't use the machine for long time, open the drainer and drain wash water wholly.
- ◎ Be careful the control box not to get wet when you clean the machine. It may occur the electric shock and malfunction.
- ◎ Always remove the scale of the machine.

2) Be sure to use the chemicals for dishwasher only.

- ◎ The normal market chemicals may generate too much foam and reduce the washing efficiency, as well as cause the malfunction.

3) Be careful to keep the proper temperature.

- ◎ The best washing efficiency is realized at the proper temperature of wash and rinse water.
- ◎ The washing water temperature: 45°C ~ 65°C
- ◎ The rinse water temperature: 70°C ~ 90°C

6. TROUBLE SHOOTING

1) If the system does not work?

- ⊙ Check the main breaker-ON in the control box.
- ⊙ Check the ELB ON in the operation breaker.
- ⊙ Check the power lamp-ON at Power s/w ON.
- ⊙ Check the Ready lamp ON.
- ⊙ Check the Main Electric power 380V (in case of 3 Phase 4 wired)
- ⊙ Check the operating power 220V.

2) If not watering

- ⊙ Check the power s/w lamp
- ⊙ Check the watering valve open
- ⊙ Check the 380V on main breaker
- ⊙ Check the watering (solenoid) valve
- ⊙ Check power on floatless sensor
- ⊙ Check the lamp off after clean the sensor if floatless sensor lamp on.

3) If not quit watering

- ⊙ Clean the floatless sensor
- ⊙ Clean the solenoid valve
- ⊙ Check the floatless sensor lamp on

4) If dish is not clean after wash

- ⊙ Remove dregs at the wash nozzle
- ⊙ Check the tripper up on wash contactor
- ⊙ Remove the dregs in wash pump
- ⊙ Check the leakage and short of wash pump
- ⊙ Push the tripper after check wash pump
- ⊙ Check 380V on wash pump contactor by voltage tester
- ⊙ Check the water is full in wash tank, otherwise fill up the water into the wash tank after its leakage.
- ⊙ Check the wash temperature, 55°C ~ 65°C
- ⊙ Check the chemical agent feeding, automatically
- ⊙ If lower temperature, check the temperature controller and contactor

5) If rinse is not good

- ⊙ Check if the water pressure, 1.2Kg/cm² over
- ⊙ Clean dregs on the rinse nozzle
- ⊙ Check rinse temperature, 82°C

6) If conveyor chain does not work

- ⊙ Check emergency s/w ON
- ⊙ Check the display of chain speed
- ⊙ Check the chain speed control ON
- ⊙ Check the current control overload relay
- ⊙ Check relay lamp of motor
- ⊙ Check the chain
- ⊙ Check the sprocket and its key of motor

7) If emergency does not work

- ⊙ Check emergency s/w
- ⊙ Check the current control overload relay
- ⊙ Check the lamp of motor relay

8) When out of the chain in the conveyor

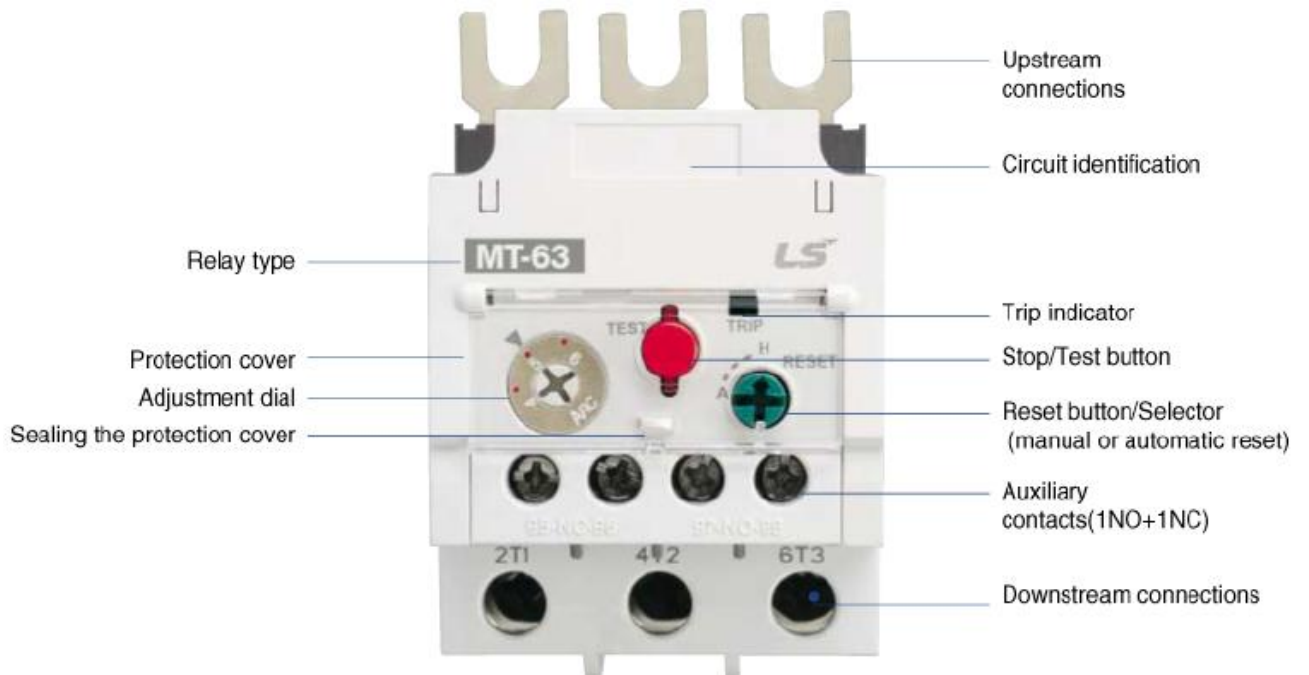
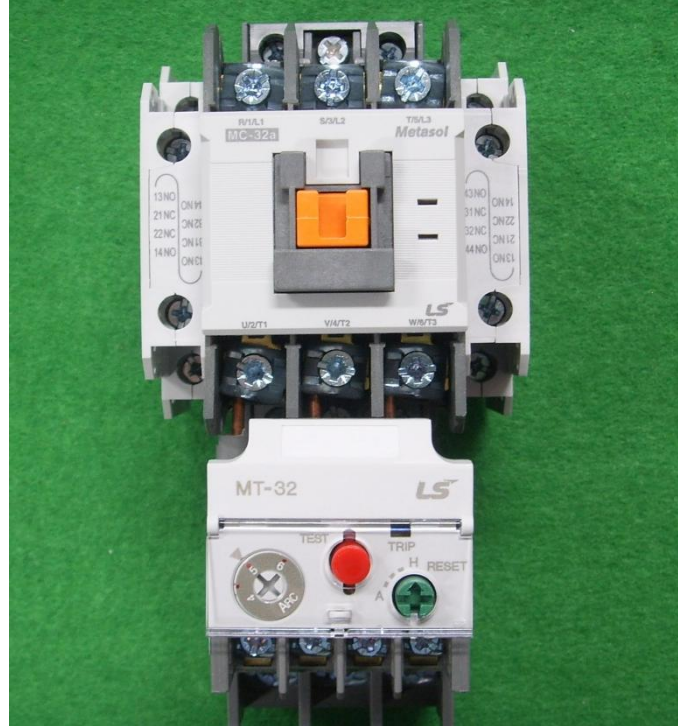
- ⊙ Disjoint the chain after power off Immediately
- ⊙ If loosen chain, fasten it with tension control nut

9) If out of order at gas booster(for DRC-1HG)

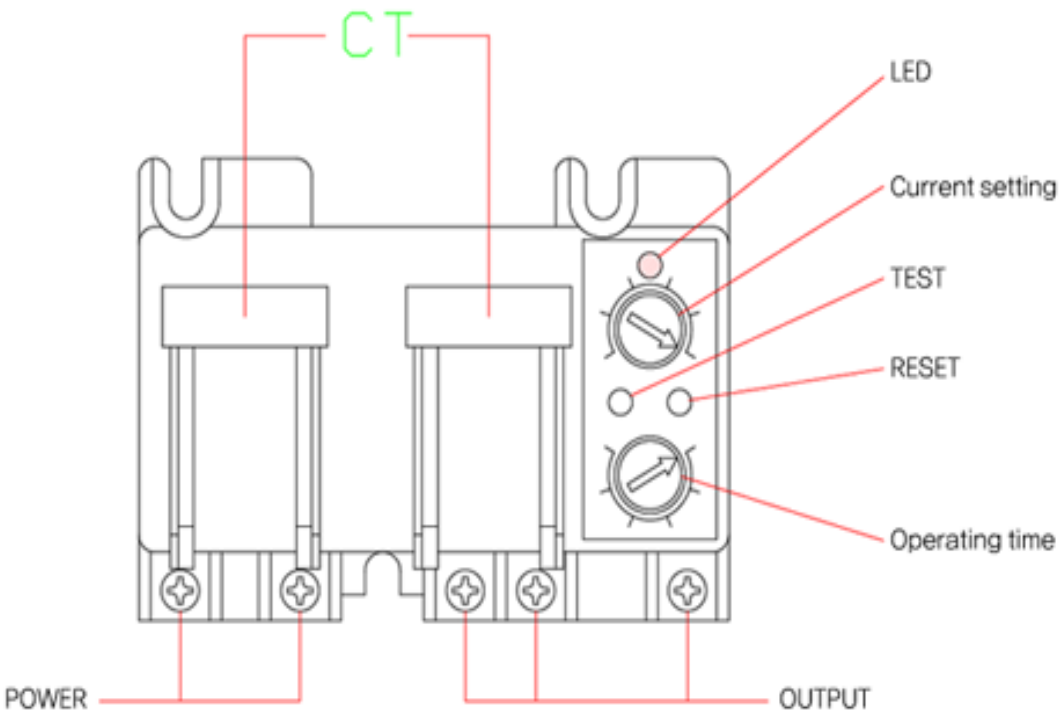
- ⊙ Check gas supply
- ⊙ Check the gas, high or low pressure? (Preferred low pressure in case of LPG)
- ⊙ Check the inlet & outlet valve of gas booster

7. Electrical parts

1) Contactor & Over load Relay

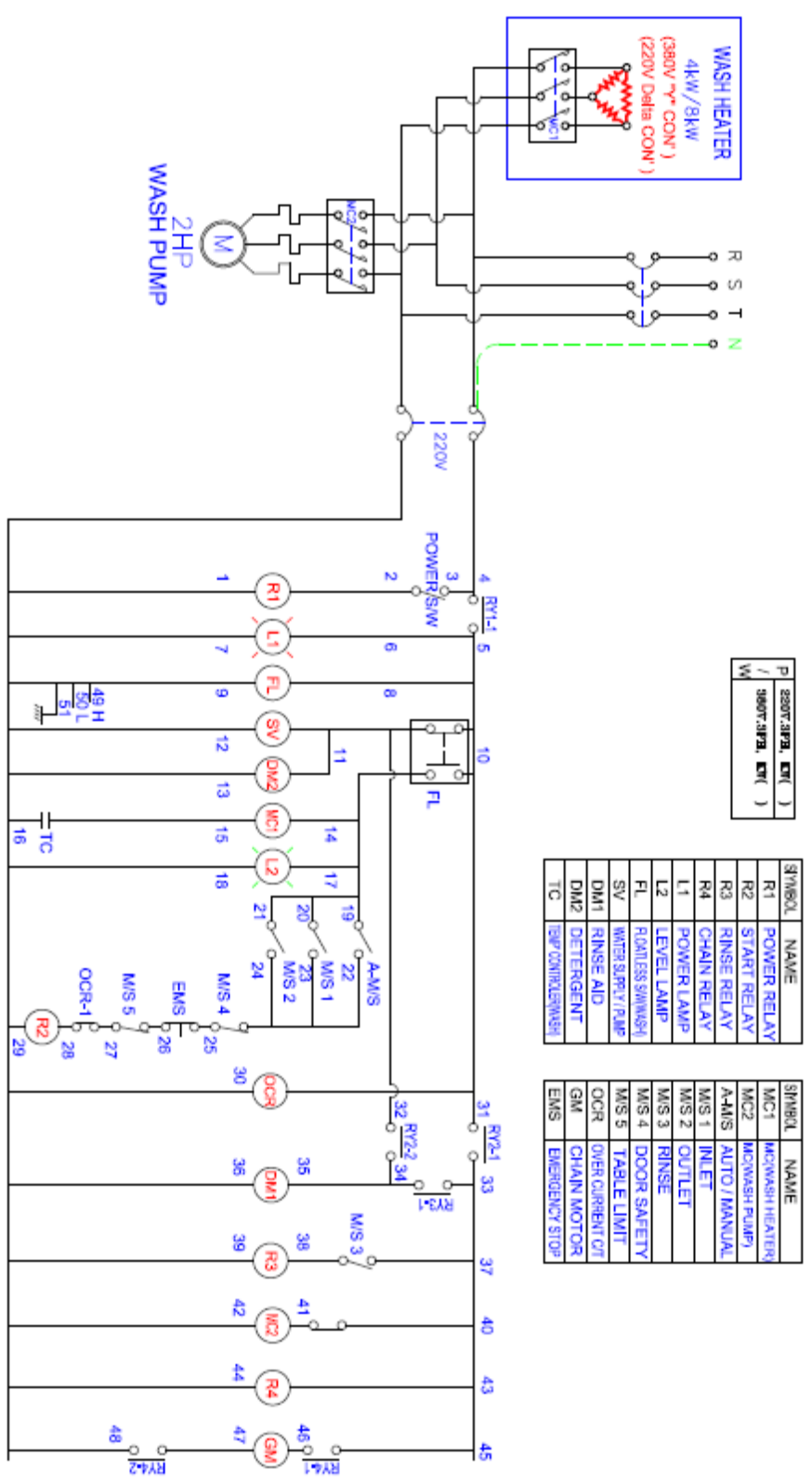


2) Earth Leakage Circuit Breaker

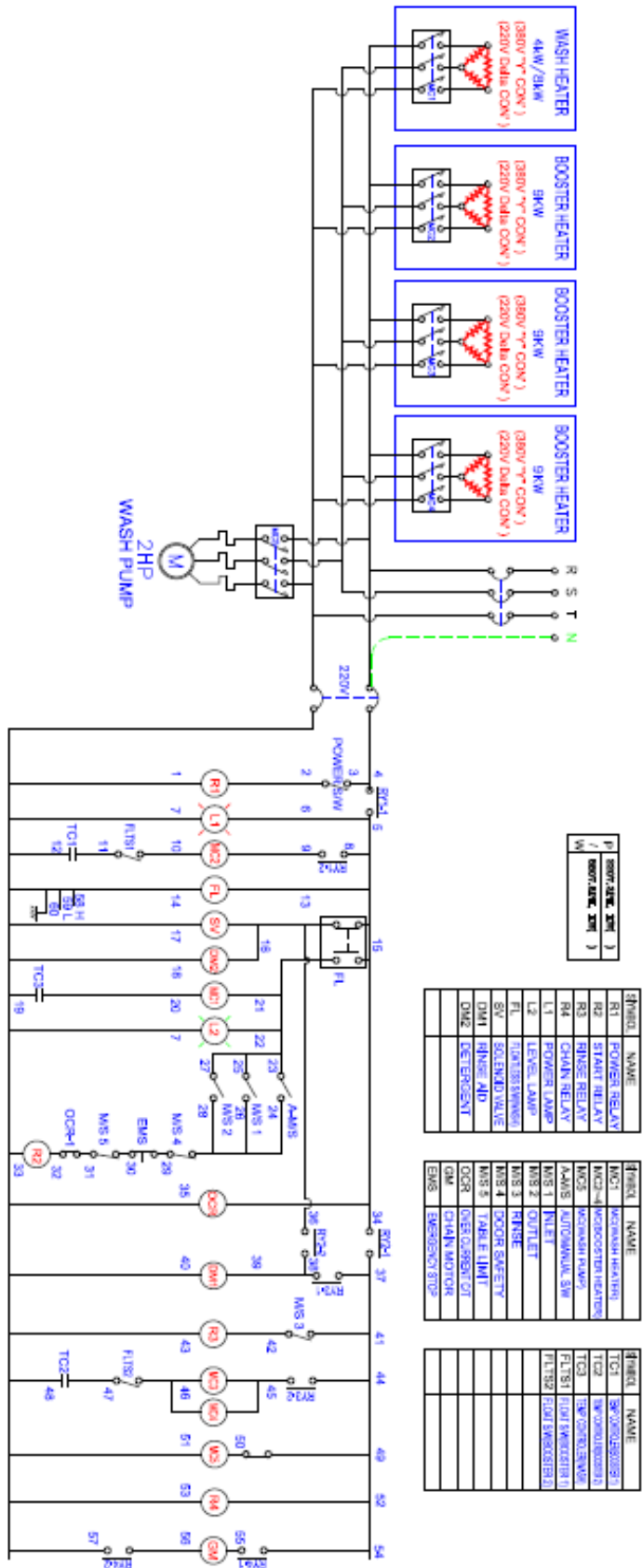


3) ELECTRIC WIRE DIAGRAM

ELECTRIC DIAGRAM(DRC-1G)



ELECTRIC WIRING(DRC-1E)



P	POWER (220V)
N	NEUTRAL
R	PHASE
S	PHASE
T	PHASE

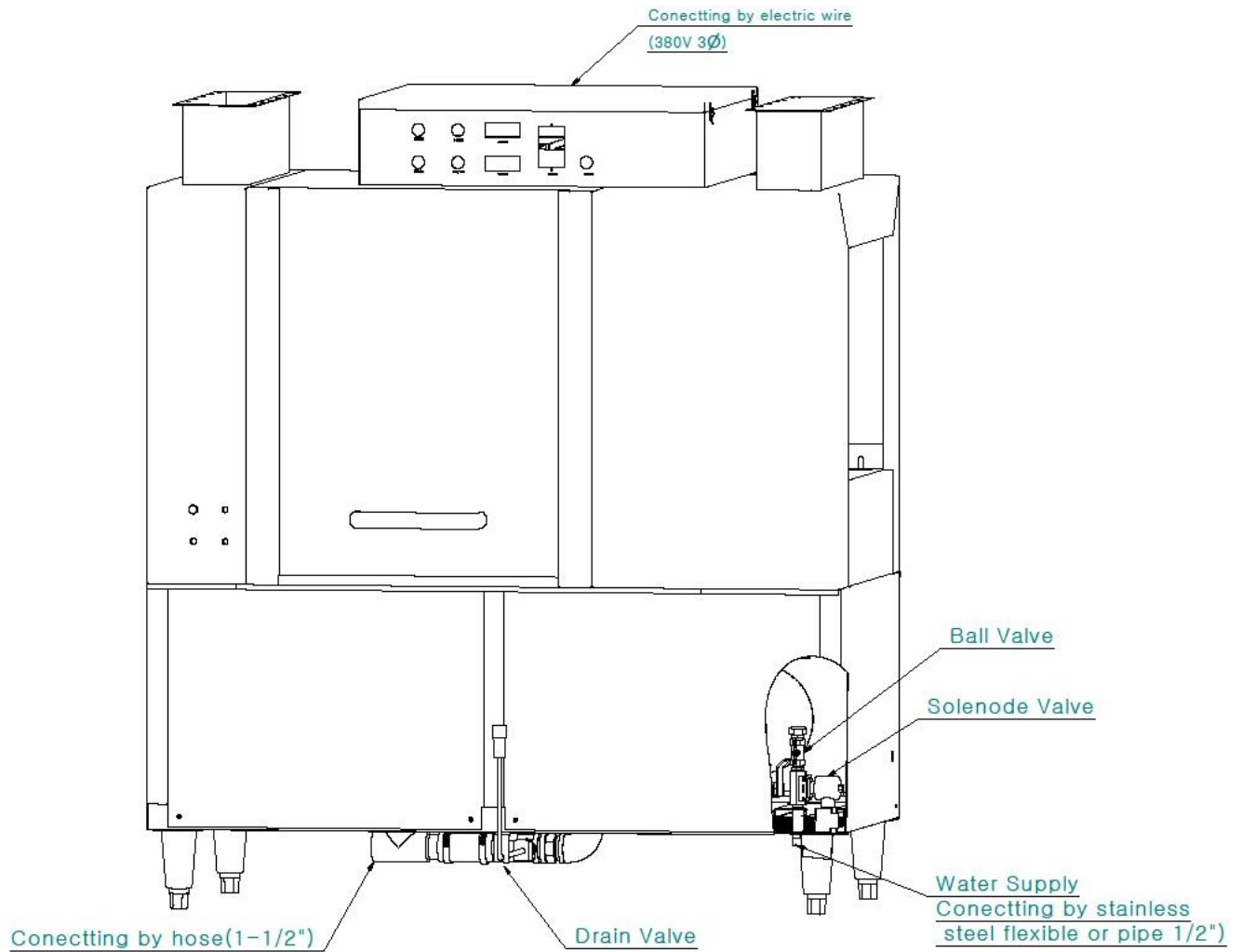
TERMINAL	NAME
R1	POWER RELAY
R2	START RELAY
R3	WASH RELAY
R4	CHURN RELAY
L1	POWER LAMP
L2	LEVEL LAMP
FL	TEMPERATURE
SV	SOLENOID VALVE
DM1	DIRTY AIR
DM2	DEFROST

TERMINAL	NAME
MS1	WATER HEATER
MS2	BOOSTER HEATER
MS3	BOOSTER HEATER
MS4	BOOSTER HEATER
MS5	CHURN MOTOR
MS6	CHURN MOTOR
MS7	CHURN MOTOR
MS8	CHURN MOTOR
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TERMINAL	NAME
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8. Dishwasher Installation



1) Instruction before installation

- ⊙ Confirm the place to be installed
- ⊙ Confirm the electric specifications [380V, 3ph, 4wired]
- ⊙ Confirm watering pressure, over 1.2kg/cm²
- ⊙ Confirm the ventilation
- ⊙ Position the drainage

2) How to install the dishwasher

- ⊙ Level the dishwasher in using adjustable feet
- ⊙ Connect the cable to terminal bloc in order
- ⊙ Be sure to confirm the elec. spec's, 380V, 3Ph, 4wired
- ⊙ Connect the rinse aid hose to check valve

※ **Watering for initial operation**

1. Open panel and connect the watering hose [1/2" stainless flexible hose] to solenoid valve
2. Open the ball valve [Available to throttle watering volume by this valve]
3. Power On at control box
4. Check the watering out of rinse nozzle after opening panel
[It takes 20 minutes to fill up the tank]
5. Check the start lamp (green color) at control box
If green lamp on, the tank is full and the M/C ready to start
6. Turn on the start switch at control box.

CAUTION FOR USE !

1. Except technician trained in safety education, don't operate the machine
2. Don't wash too many dishes in a rack at one time
3. Use designated rack for small pieces like cup, spoon etc.
4. Keep the door closed while operating
5. While operating, don't open the door nor touch the body – may cause burn injuries by hot water
6. Don't open electric control box, it may cause the electric shock
7. Must be grounded of power outlet for prohibiting electric shock
8. Make sure to install the machine in good-ventilated place away from any inflammables.
9. When ignition defects of gas booster, immediately shut-off gas valve, check gas leakage and call local service center
10. Wear the protection glove because hot water may cause burn injuries during operation and the sharpen edge may cause hurt injuries during cleaning, moving and operating
11. Don't touch the rotating chain of inlet and outlet of machine, immediately press the emergency stop button when abnormal operation
12. Don't wash the poisoned dishes - be fatal danger if contaminated to the dishes
13. Don't put inflammable liquid into tank
14. Don't wash undesignated dishes
15. Don't use the dishes coated or weakened by aluminum or alkalinity
16. Be careful for children not to touch chemical agents and operating switch
17. Don't get the detergent or rinse aid in skin when exchanging chemicals.
When touched, immediately wash it out with warm water
18. When drink the chemicals, immediately throw them up and ask a doctor
19. Call local service center if any problems or questions