



# WASHING MACHINE

WF-R1061/YLP

R861/YLP

BASIC MODEL

WF-F1061

# ***SERVICE*** *Manual*

WF-R1061



THE FEATURE OF PRODUCT

1. Delay start
2. Coloureds
3. Hand wash
4. Prewash
5. Quick wash

Refer to the service manual in the itself (<http://itself.sec.samsung.co.kr/>) for the more information.

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# 1. Precautions

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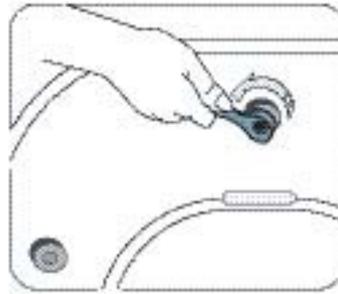
## 1-1. Safe Precautions

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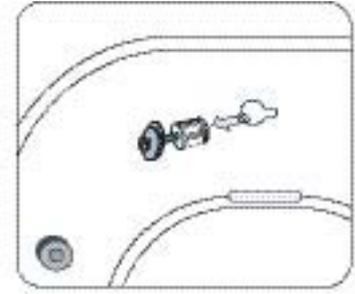
1. Do not allow the customer to repair the product.
  - ☞ It may cause personal injury or product damage when the unit is serviced by unqualified personnel.
2. Disconnect power to the appliance before servicing.
  - ☞ Be aware of the possibilities of an electric shock.
3. Do not use multi-plug.
  - ☞ Power outlet may be overloaded causing the socket to overheat.
4. Check for any damage on power plug or power outlet.
  - ☞ Replace it immediately if it has problem. (It may cause an electric shock or fire)
5. Make sure to earth the product.
  - ☞ May cause electric shock.
6. Do not clean the product with water.
  - ☞ May cause electric shock / fire or shorten product life.
7. The wiring harness should be free from moisture and connected properly during servicing.
  - ☞ It should be proof against any external force.
8. Remove any dust or dirt in the product, wiring section and connections during servicing.
  - ☞ Protect against possibilities of fire due to tracking etc.
9. Check for any water trace on electrical parts, harness, etc.
  - ☞ Replace the parts or wipe dry the water.
10. Check the assembled status of the parts after servicing.
  - ☞ Check if the product is assembled in the same status as before servicing.
11. Be sure not to pull on the power cord but to unplug it by holding the plug.
  - ☞ Beware of possibility of electric shock or fire when the power cord is damaged.
12. Unplug the power plug from the outlet when the washing machine is not used.
  - ☞ Beware of possibility of electric shock or fire while lightning.
13. Do not use or put flammable materials (including gasoline, alcohol, thinner etc) around the washing machine.
  - ☞ Flammable materials may spark an explosion or fire.
14. Do not put a water containing bowl or wet laundry on the washing machine.
  - ☞ It may cause an electric shock or fire, or shorten the product life when its water penetrates into the washing machine.
15. Do not install the washing machine in a place where it is exposed to snow or rain etc.
  - ☞ It may cause an electric shock or fire and shorten the product life.
16. Do not press control buttons with pointed objects such as pins, needles, etc.
  - ☞ It may cause an electric shock or other problems.
17. Check the washing machine is leveled horizontally on the floor and is installed properly.
  - ☞ Vibration may shorten the product life.
18. Make sure to use connectors when connecting wires.
  - ☞ If wires are connected without connectors, it may cause a tracking fire.
19. When the washing machine is to be laid down for servicing, put a pad on the floor and lay the product on its side slowly.
  - ☞ If the wash machine is laid on its front, internal components may be damaged by the tub.

## 1-2. Precautions upon Installation

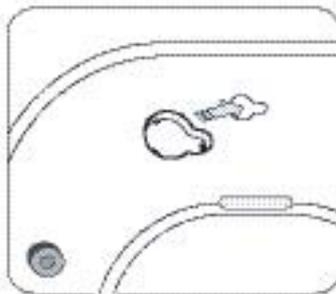
### ■ How to Remove Shipping Bolts



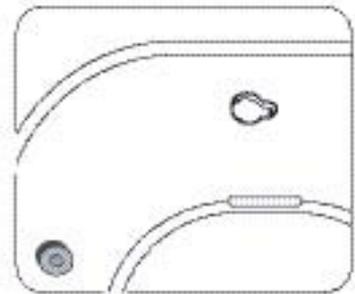
1. Remove the screws by using the supplied spanner.



2. Remove the shipping bolts from the back of the unit.



3. Fill the holes with the supplied plastic caps.



4. Keep the shipping bolts and screws for future use.

### ■ Precautions before Installation



The unit is quite heavy. So, make sure to have 2 or more personnel move it.



Make sure that the unit stands on a firm and leveled floor.



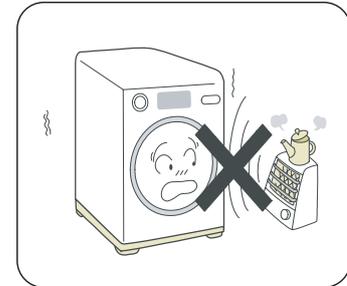
Keep it away from direct sunlight or high humidity, and install it in a place with good ventilation.



Install the unit at a place with a wall outlet easily accessible.



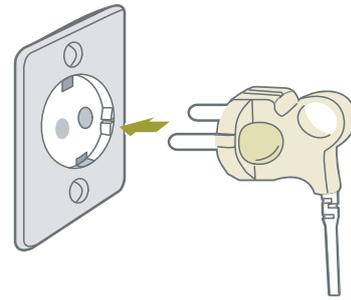
Keep the unit away from places in which it is freezing, especially in winter.



Keep the unit away from heat appliances such as a heater.

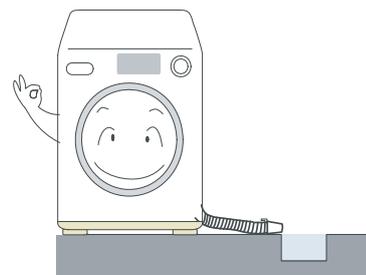
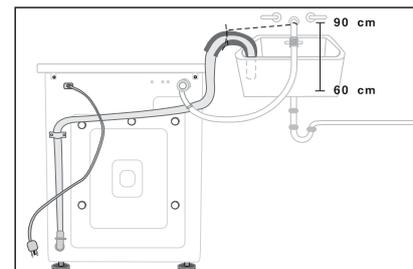
## ■ Grounding

- ※ Make sure to ground the unit to prevent electric leakage or shock.
- ※ With a grounded receptacle  
It does not need an additional grounding.



## ■ Water Drainage

- ※ Hook the drain hose over the Wash Basin or Laundry Tub or plug the end of the drain hose into the Standpipe.
  - Hook the drain hose over the Wash Basin or Laundry Tub or plug the end of the drain hose into the Standpipe.
  - The outlet end of the drain hose must be at least 60-90 cm above the base of the machine.
- ※ Seal the drain pipe connections.
  - If not, it may cause water leakage.
- ※ Prevent water from siphoning away.
  - If the end of the drain hose is put in water, it could siphon away water during washing. So, make sure that the end of the drain hose is not put in water.



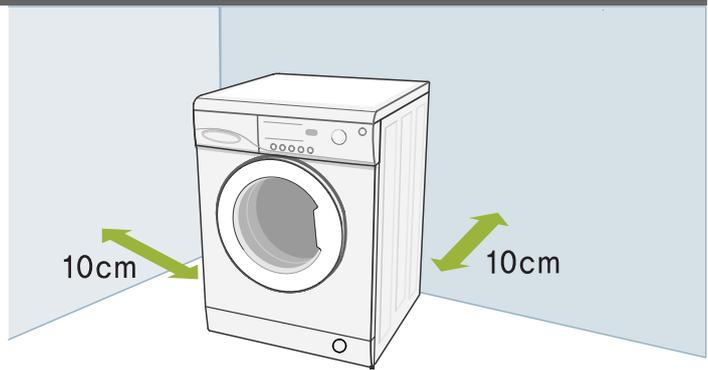
Note: Caution must always be exercised to avoid collapsing or damaging the drain hose. For best performance the drain hose should not be restricted in any way, through elbows, couplings or excessive lengths.



■ How to Level the Unit

1. Select an installation place.

Install the unit with 10cm or more clearance from its surrounding walls.

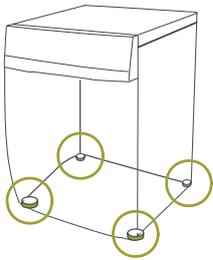


2. Check if the unit is leveled.

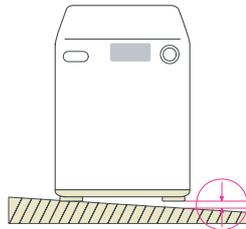
If the unit wobbles, adjust the leveling legs.



3. Adjust the leveling legs.



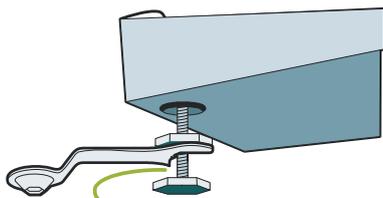
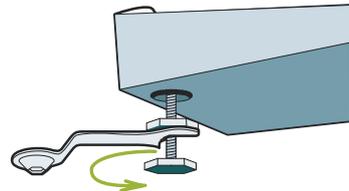
The 4 leveling legs should touch the floor all together.



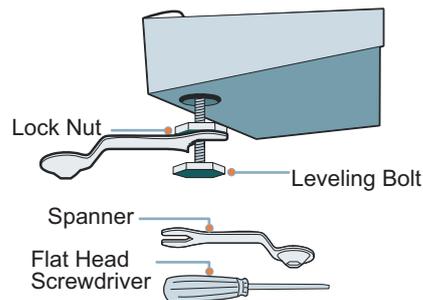
When the unit is not leveled

Lift up the unit a little bit and adjust the shortest.

Turn the leveling bolt counter clockwise as shown in the picture above (The leveling leg gets longer.)



After adjusting the leveling bolt, tighten the lock nut by turning it clockwise.



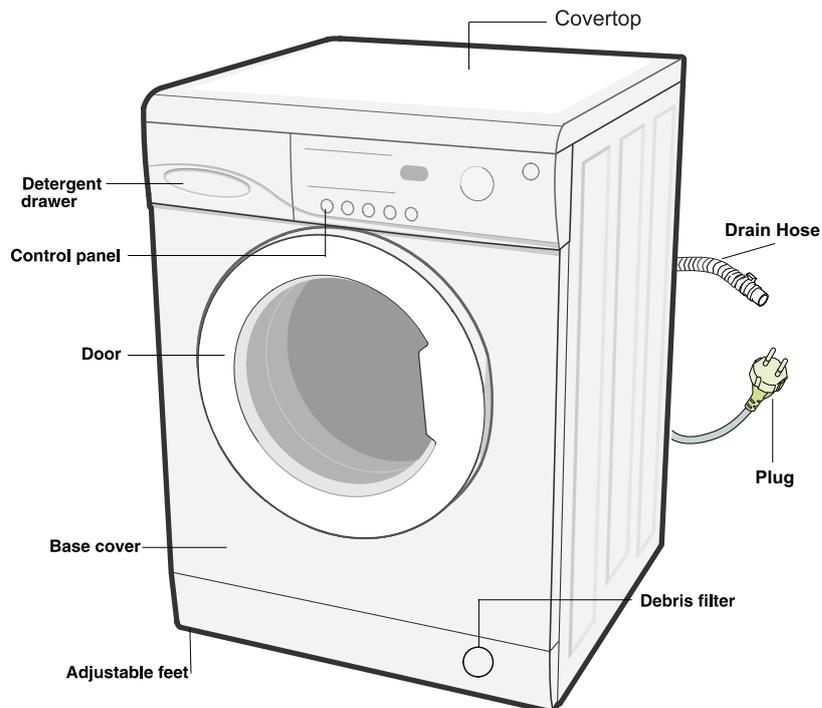
※ Caution ※

Tighten the lock nut after the leveling. If not, it could generate vibrations & noises.

## 2. THE FEATURE OF PRODUCT

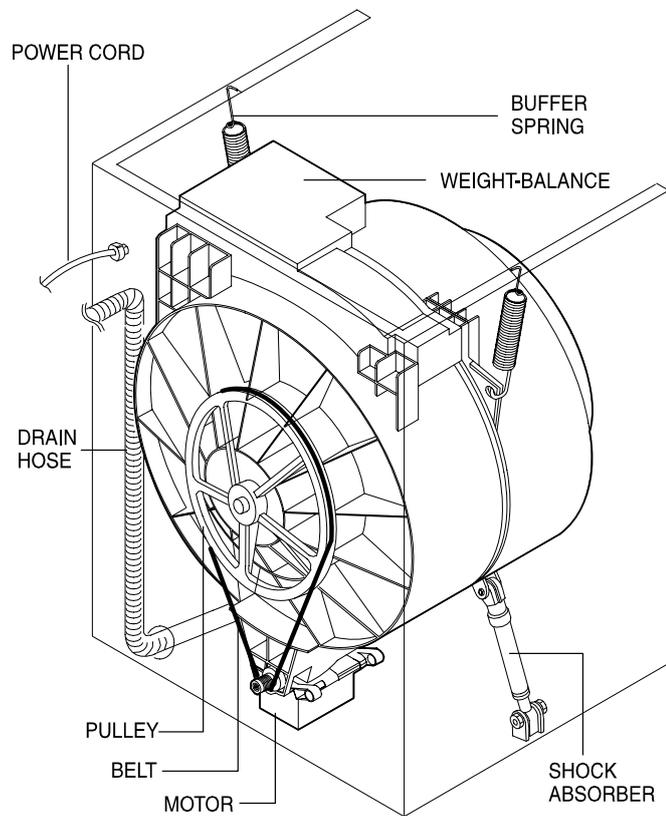
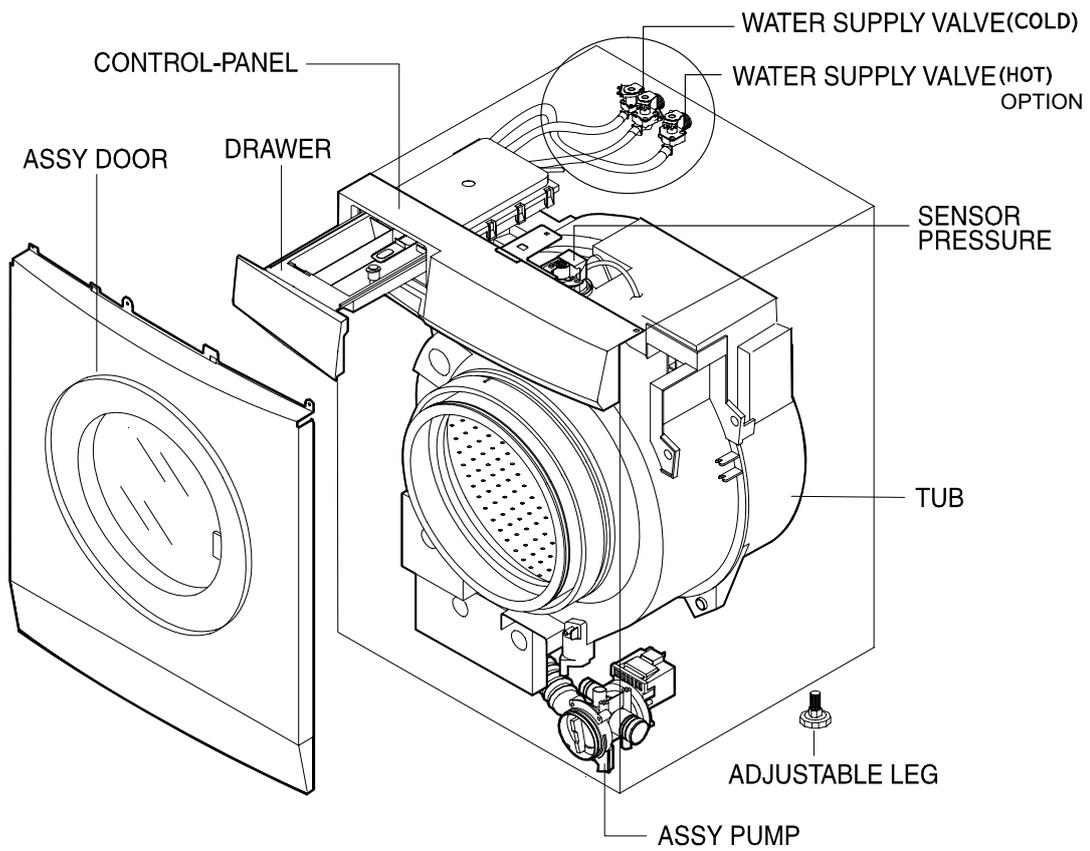
### 2-1. SPECIFICATIONS

WASH TYPE	FRONT LOADING TYPE			
DIMENSION	NET	W 598mm X D 450mm X H 844mm		
	GROSS	W 668mm X D 576mm X H 890mm		
WATER PRESSURE	50 kPa ~ 800 kPa			
WEIGHT	NET	66 kg		
	GROSS	69 kg		
WASH and SPIN CAPACITY	5.2 kg (DRY LAUNDRY)			
POWER CONSUMPTION	WASHING	220V	180W	
		240V	180W	
	WASHING AND HEATING	220V	1800W	
		240V	2100W	
	SPIN	MODEL	WF-R1061	WF-R861
		220~240V	500W	430W
PUMPING	34 w			
WATER CONSUMPTION	49l(STANDARD COURSE)			
SPIN REVOLUTION	MODEL	WF-R1061	WF-R861	
	rpm	1000	800	
PACKAGE Wt	PAPER	2.1kg		
	PLASTIC	0.9kg		



## 2-2. OVERVIEW OF THE WASHING MACHINE

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## 2-3. THE COMPARATIVE SPECIFICATIONS OF PRODUCT

### ■ THE COMPARATIVE SPECIFICATIONS OF PRODUCT (一)

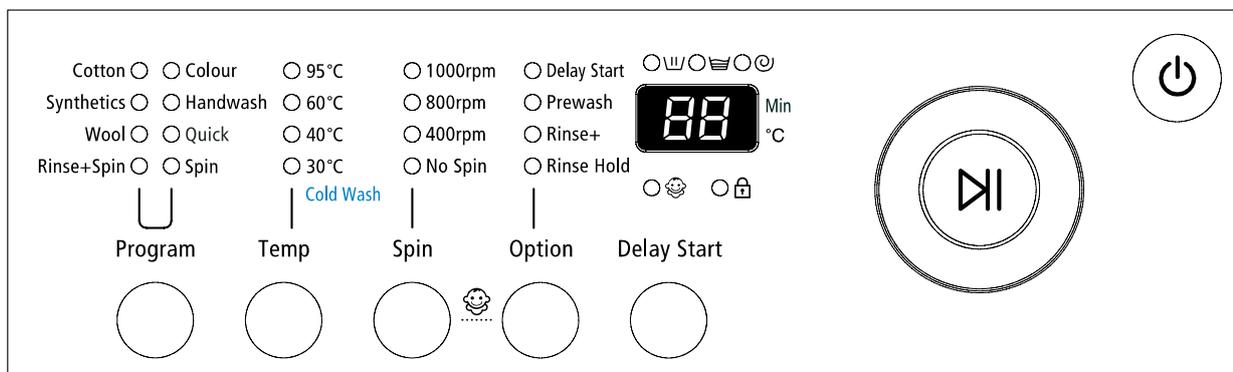
Item	5.2kg	Old (4.5kg)
Model Name	WF-R1061	WF-F1061
Capacity (Washing)	5.2kg	4.5kg
Drum Capacity	49ℓ	43ℓ
Washing Motor	HXGN2I	HXGN2I
Supply/Drain	All temperatures /Drain pump	All temperatures /Drain pump
Balancer	Weight	Weight
SIZE(W*D*H)	598*450*890	598*404*890

### ■ THE COMPARATIVE SPECIFICATIONS OF PRODUCT (二)

5.2kg			
Model Name		WF-R1061	WF-R861
		Function	
Water-level Control		O	O
Add Laundry		X	X
Exterior Replacement Part Name		Specifications	
Design	Cover Door	Neat-white	Neat-white
	Handle Door	Neat-white	Neat-white

## 3. PRODUCT SPECIFICATIONS

### 3-1. OVERVIEW OF THE CONTROL PANEL



#### 1. Display panel

Displays wash cycle and error messages.  
During execution of the program, the program indicator blinks.

#### 2. Program Select button

Press the button repeatedly to select one of the six available wash program.  
Cotton → Colour → Synthetics → Handwash → Wool → Quick → Rinse+Spin → Spin

#### 3. Temperature selection button

Press the button repeatedly to cycle through the available water temperature options (cold water, 30°C, 40°C, 60°C and 95°C).  
When pressing this button during washing, you can see the selected temperature in the display panel.

#### 4. Spin selection button

Press the button repeatedly to cycle through the available spin speed options.

#### 5. Option button

Press the button repeatedly to cycle through the available partial wash options  
Rinse Hold → Rinse<sup>+</sup> → Rinse Hold+Rinse<sup>+</sup> → Prewash → Prewash+Rinse Hold → Prewash+Rinse<sup>+</sup> → Prewash+Rinse Hold+Rinse<sup>+</sup>  
Note : Prewash is only available when washing cotton, synthetic or Colour.

#### 6. Delay Start selection button

Press this button repeatedly to rotate between the retarded start options available.  
(from 3 Hours to 24 Hours, in 1 hour increments)

#### 7. Start/Pause button

Press to pause and restart programs.

#### 8. (On/Off) button

Press once to turn the washing machine on, press again to turn the washing machine off.  
If the washing machine power is left on for longer than 10 minutes without any buttons being touched, the power automatically turns off.

#### ● What is the "Child Lock" function?

- If you press the "Child Lock" button(Spin+Option button) longer than 2 sec during operation, this function is selected.
- If once this function is selected, no change can be done until the end of laundry.
- Press the "Child Lock" button(Spin+Option button) longer than 2 sec to cancel the function.

### 3-2. PROGRAMME CHART

(\* user option)

PRO-GRAM	Max load (kg)					Detergent And Additives			Temperature (MAX) °C	Spin Speed (MAX)rpm				Delay start	Cycle Time (min)
	WF-J1461/ J1261/ J1061/ J861	WF-B1461/ B1261/ B1061/ B861	WF-R1261/ R1061/ R861	WF-F1261/ F1061/ F861	WF-S1061/ S861	Pre wash	wash	Sof tener		WF-J1461/ B1461	WF-J1261/ B1261/ R1261/ F1261	WF-J1061/ B1061/ R1061/ F1061/ S1061	WF-J861/ B861/ R861/ F861/ S861		
Cotton	7.0	6.0	5.2	4.5	3.5	*	yes	*	95	1400	1200	1000	800+	*	126
Colour	7.0	6.0	5.2	4.5	3.5	*	yes	*	60	1400	1200	1000	800+	*	98
Synthetics	3.0	3.0	2.5	2.5	2.0	*	yes	*	60	800	800	800	800	*	73
Wool	2.0	2.0	1.5	1.5	1.0	-	yes	*	40	400	400	400	400	*	42
Handwash	2.0	2.0	1.5	1.5	1.0	-	yes	*	40	400	400	400	400	*	37
Quick	3.0	3.0	2.0	2.0	1.5	-	yes	*	60	1400	1200	1000	800+	*	28

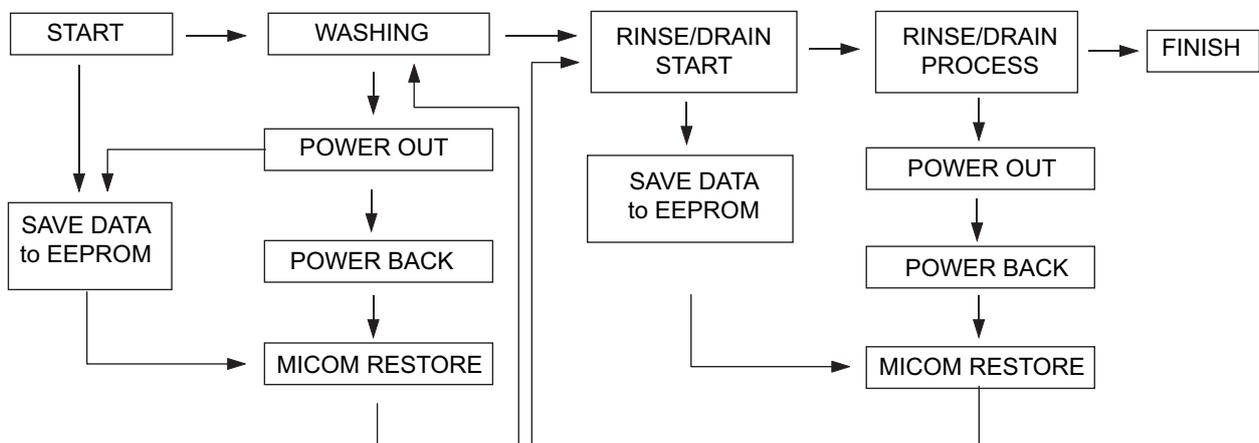
PROGRAM	Type of WASH
Cotton	Averagely or lightly soiled cottons, bed linen, table linen, underwear, towels, shirts,etc.
Colour	Averagely or lightly soiled cottons, bed linen, table linen, underwear, towels, shirts, etc.
Synthetic	Lightly or averagely soiled blouses, shirts, etc. Made of polyester(Diolen, Trevira), polyamide(perlon, Nylon) or similar blends.
Handwash	Very light wash course like hand wash.
Wool	Only machine washable wollens with pure new wool label.
Quick	Lightly soiled cottons or linen blouses, shirts, dark coloured terry cloth, coloured linen articles, jeans, etc.

1. The programme duration data has been measured under the conditions specified in Standard IEC 456.
2. Consumption in individual homes may differ from the values given in the table due to variations in the pressure and temperature of the water supply, the load and the type of laundry.

### 3-3. MAIN FUNCTION

- 1) Auto power S/W off function
  - After power on, the auto power S/W off function automatically switches power off for you if you do not press selection button for 10 minutes
  - After selecting the function, the auto power S/W off function automatically switches power off for you if you do not press start/pause button for 10 minutes
  - until 5 minutes past, After finishing the last function, the auto power S/W off function automatically switches power off for you if you do not re-select the course button or manual button
  
- 2) Door open function
  - Door just can be opened at water level 24.80 KHz over, water temperature 55°C below, motor off, if power is off door is not opened (only auto-door model)
  - If door is open during the operating, all operating is halted, and door error message will be displayed (2-digit panel displays "dE" 4-digit panel displays "door") and error melody will coming out
  - Door open error can be cleared by closing the door. the operating keeps going on
  
- 3) Rinse hold function
  - If rinse hold function selected, the operating is finished , the machine do not drain the water after last rinse
  
- 4) No spin function
  - If no spin function selected, the operating is finished after last rinse
  
- 5) Drain function
  - Drain function is over, after pumping out the water for 2 minutes , without motor rotating
  
- 6) Pre-washing function
  - Pre-washing function can be selected ,when you choice the following mode; cotton, coloreds, syn thetics, delicates, baby cotton, baby coloreds, baby delicates, baby stains
  - Water level/reverse time is the same with the selected course
  - Pre-washing takes about 16 minutes
  
- 7) Power-out compensation function
  - If power is out on selected process, the process before power out is stored to EEPROM, once power is back the process before power out continues.
  - When power is back, washing process starts from the process at the point of the power out, rinse/drain process starts from the initial process.

POWER-OUT COMPENSATION FUNCTION PROCESS



8) Fuzzy washing function (weight-sensing)

- After finishing initial water supply, when the fall of the water level needs supplementary water supply, Sensing function perceives the weight with the supplementary water supply numbers and starts to work. Under the course of Cotton, or Coloureds, if the supplementary water supply numbers become over 2 times the function is going at default condition ( high water level ), if 1 time that is going at middle level, if 0 below low water level, heating hours and rinse hours depend on the above data.

ECO PRE mode is selected, the process going on at default condition.

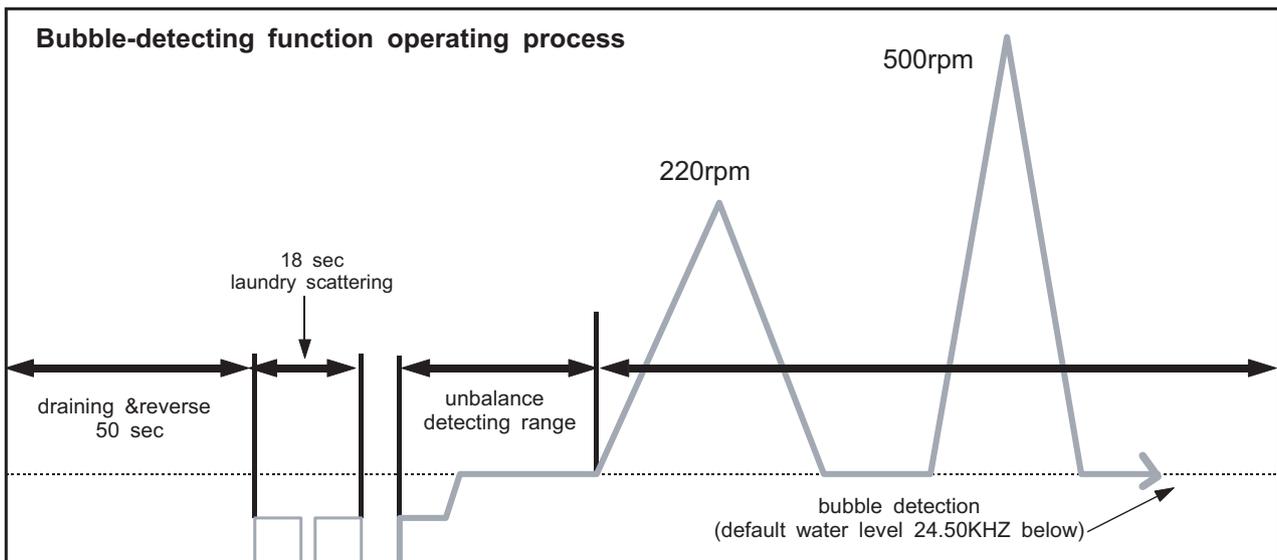
	Washing hours		Rinse water level
	Cotton	Coloureds	
High	Default	Default	Default
Middle	Default-20 min	Default-10min	23.80KHZ
Low	Default-30 min	Default-15min	24.10KHZ

※ After sensing weight, above hours is decreased from above default hours

9) Bubble - detecting function

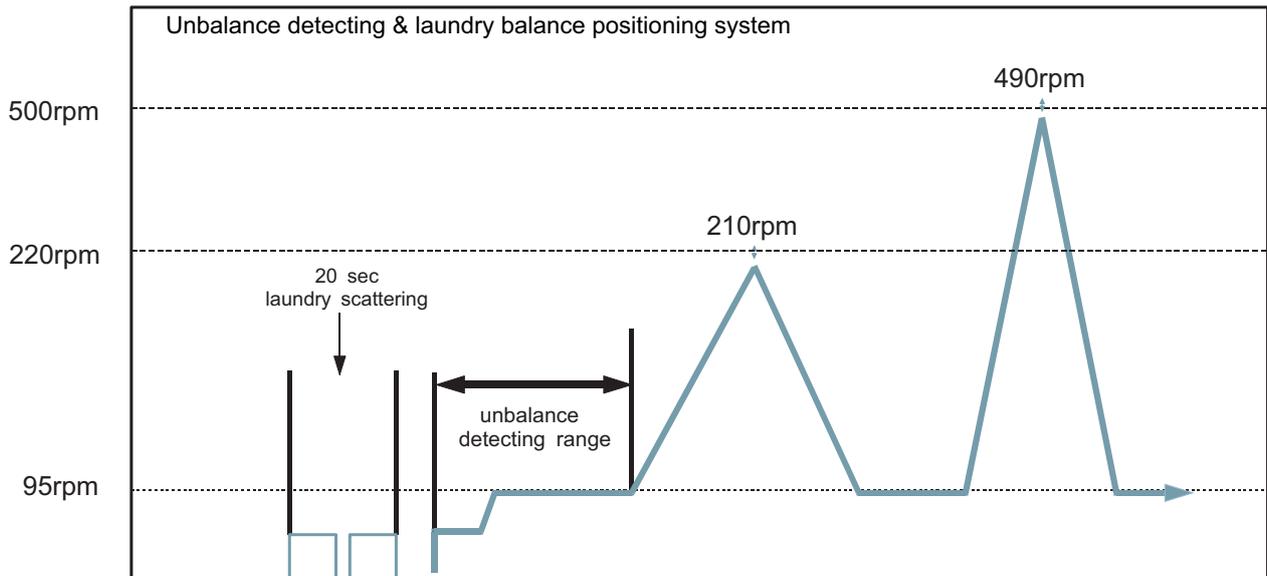
At the each condition of washing&dehydrating , rinse&dehydrating , hydrating, bubble -detecting function works, this function works 5times normally, if the function detects bubbles at 6 times , the bubble-detecting function stops and go on to the next process.

- The bubble-detecting function during washing & dehydrating to rinse & dehydrating after 2 times instant dehydrating and before main dehydrating, if the water level is under 24.50KHZ, Bubble
  - Detecting function thinks there are bubbles and add the bubbles-removing rinse, needing hours are above hours and 8 Min 40 sec.
  - The bubble-detecting function during single hydrating process after 2 times instant dehydrating and before main dehydrating , if the water level is 24.50KHZ below or during main dehydrating, water level data is 24.50KHZ below Bubble-detecting function thinks there are bubbles and add the bubbles-removing rinse 1 times, needing hours are above hours and 5 min 50 sec.



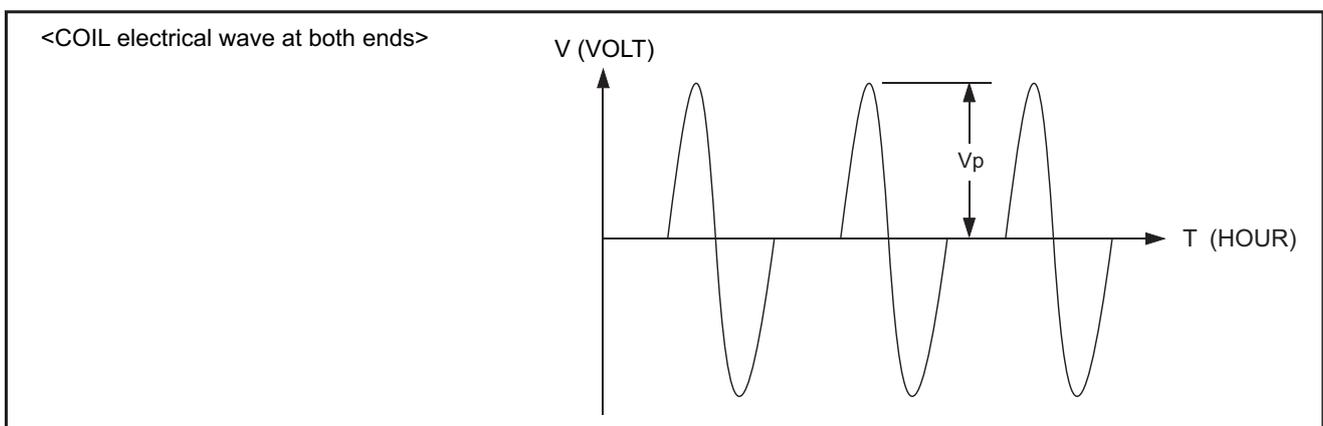
10) Unbalance detecting & laundry balance positioning system

- ① Just before the hydrating process and just after reversal rotation for balancing laundry position, this function is carried out
- ② The initial 6 sec is the period of reversal rotation for balancing laundry position , Drum rotates 50rpm for initial 6 sec
- ③ Next 12 sec, the rotation increases the speed from 50 rpm to 95 rpm slowly
- ④ During the next 8 sec, drum rotates at the speed of 95 rpm, the sensor decides the degree of laundry unbalance with TACHO data which is attached to motor
- ⑤ If the degree of unbalanced laundry is over 6 times to default value, laundry balancing system carries out feed back process 3 times.



11) R.P.M control

The rotating motor enables the magnetics( i.e generator) to generate magnetic flux in proportion to r.p.m, magnetic flux induced by coil sensor in the opposite side produces the wave like the figure below to  $d\Phi/dt$  and via rectangular wave generating circuit, the waves reaches MICOM and micom controls r.p.m with the pulse, count and cycle inputted by program.



### 3-4. TECHNICAL POINT

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#### 1) Motor on/off time at each course

unit:sec

Course \ Model	Washing				Motor r.p.m
	Cw	Off	Ccw	Off	
Cotton	13	4	13	4	50
Coloureds	12	8	12	8	50
Synthetics	7	8	7	8	40
Wool	2	48	2	48	50
Handwash	2	58	2	58	50
Quick	12	8	12	8	50
Pre	10	10	10	10	50

#### 2) Final dehydrating r.p.m at each course

unit:rpm

Course \ Model	WF-R1061	WF-R861
Cotton	1000	800
Coloureds	1000	800
Synthetics	800	800
Wool	400	400
Quick	1000	800
Handwash	400	400

※ You can change the r.p.m to the above a table by use spin button under no spin situation.

### 3) The water supply control at each process cycle

Process cycle \ Model	WF-R1061,WF-R861
Pre Washing	Cold water 5L/min
Washing	Cold water 10L/min + (Hot water 10L/min)
Rinse	Cold water 10L/min
Final rinse	Cold water 10L/min + Cold water 5L/min

### 4) The water level data at each course

unit:Khz

Course \ Model	Default water level (kHz)	Supplementary water START (kHz)	Supplementary water End (kHz)
Normal	Washing	24.60	24.80
	Rinse	23.60	24.20
Colours	Washing	24.60	24.80
	Rinse	23.60	24.20
Synthetics	Washing	23.80	24.30
	Rinse	23.65	24.30
Wools /Hand-wash	Washing	23.45	24.00
	Rinse	23.15	24.00
Quick	Washing	24.40	24.70
	Rinse	23.80	24.70

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## 5) The other water level data

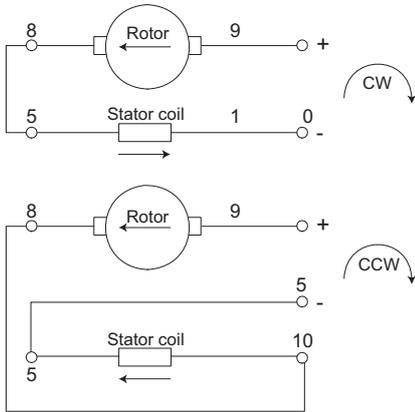
unit:Khz

The water data unter each conditon		WF-R1061,WF-R861
1st water supply (only preparation)	25.50	1st water supply level to washing tub
Overflow error	21.50	The water supplied reach 2/3 of door
Bubble detectingatwashing/rinse/dehydrating	24.50	Bubble -detecting water level
Bubble detecting rinse water level	23.00	The water level which can detect bubbles
Water level which can open door	24.80 over	It is possible to open the door
Water level which can drive heater	25.50	Safety water level of wash heater
Water level which can reset the drain	25.50	The water level can be detected after 1st draining

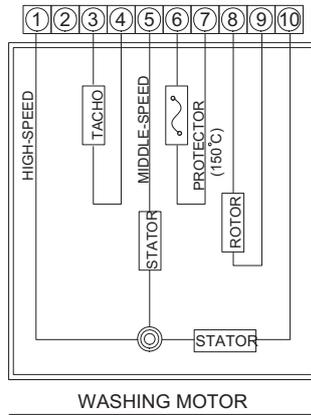
※ If water level is 15KHZ below or 30 KHZ above , Sensor-pressure is out of order so needs changing.

### 3-5. DESIGNATION OF MAIN COMPONENTS

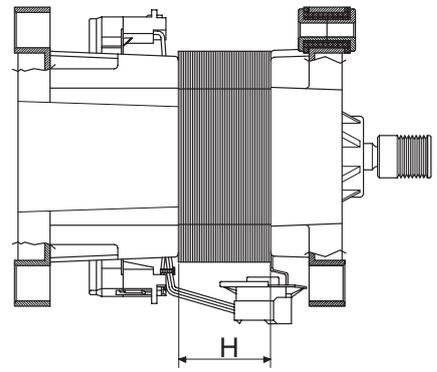
#### 3-5-1. Normal / Reverse Revolution of Motor and R. P. M. Control



<Figure1>



<Figure2>



<Figure3>

(± 7%)	STATOR(5.1)	STATOR(5.10)	ROTOR(8.9)	TACHO(3.4)	PROTECTOR(6.7)	"H"(mm)	Code-No.	Remark
Resistance value	2.07Ω	0.90Ω	1.99Ω	38.8Ω	0	39	DC31-00002E	WF-R1061 WF-R861
Rated value	220~240V/50Hz							

#### 3-5-2. Door safety Device

When Door is closed, door stay closed. if "set" is operated, power supplied to ,wires have solenoid or bimetal keep the door closed, and electrical power flows between and make it operate.



DC64-00653A ( EMZ )

### 3-5-3. Detergent tub and water supply valve

A Detergent tub is composed of housing and 3 drawers . supplied water flows into the 3 drawer-detergent tub by way of classifier at each washing process.  
 three open drainage way with detergent and supplied water by way of connector located under the housing flows into washing tub.  
 the water supply valve is composed of a cold water valve(2way) and water flow per Min in the valve is below.

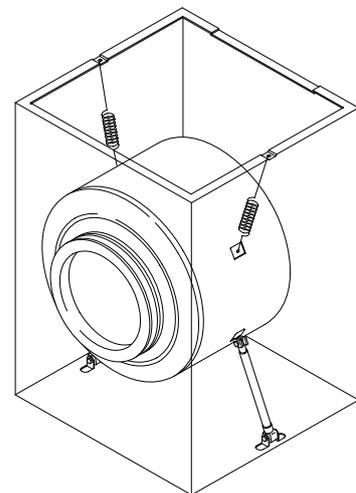
	Hot water valve (1 way) (Option)	Cold water valve (2 way)	
		V1	V2
water flow(L/min)	10ℓ	12 ℓ	5 ℓ
resistance value	4.4 kΩ	4.2 kΩ	4.2 kΩ
power consumption	AC 220~240V 50HZ		
usable water pressure	0.5 ~ 8Kg /cm3		



### 3-5-4. Shock absorber and buffer spring

This wash machine is equipped with 2 Shock absorbers with same capacity and with 2 buffer springs. 2 Shock absorber are placed under the tub and outside case , 2 buffer springs are placed on the right and left of the upper side of outside case.  
 Shock absorber function: during wash, dehydration absorb the shock.  
 buffer spring: buffering the vibration

device	capacity of Shock absorber
Shock absorber	8±2 kg



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## 4. ALIGNMENT AND ADJUSTMENTS

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### 4-1. GENERAL ERROR FUNCTION

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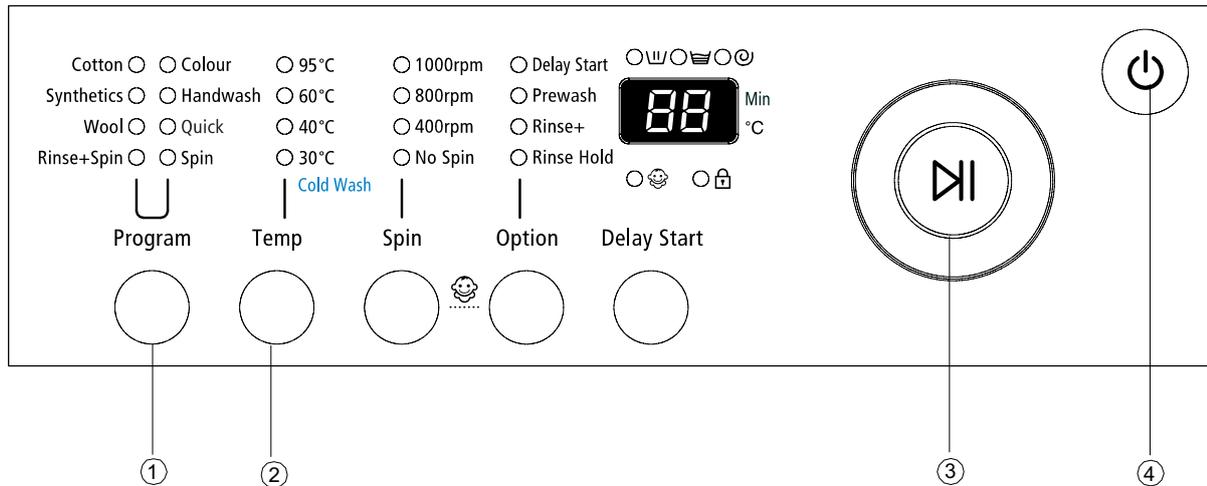
1. An occurrence of an Error will make a sound of error melody for 5sec and continuously show one of the Error Displays from the following errors. (But, Fault Check Led will flash for 0.5sec.)
2. All of the steering parts will be off at that time until that error was released.
3. Water Supply Error
  - If there is no higher change in water frequency than 100Hz for 2 minutes during the initial time of water supply and if water level doesn't reach the preset level in 10 minutes, this error will occur. This error will be released using Start/Pause button, which performs the initial condition of operation.
  - Display : "4E"
4. Water Drain Error
  - If water level frequency is still lower than the reset level frequency (25.20kHz) in 10 minutes after starting of water drain, this error will occur. This error will be released using Start/Pause button, which performs the initial condition of operation.
  - Display : "5E"
5. Over Flow Error
  - If an abnormal water level frequency is sensed (for occurrence of Over Flow :21.00kHz), Auto Power Off may release this error and continuously progress water drain until the frequency reached 25.00kHz.
  - If Over Flow is also sensed even after the following check of water level frequency indicating that error, it functions to progress water drain.
  - Display : "OE"
6. Door Open Error
  - This error will be released by closing Door.
  - Display : "dE"
7. Unbalance Error
  - This error will be released by pressing start/pause S/W.
  - DISPLAY : " UE"
8. Water Heater Error
  - This error will be released by turning off Power S/W.
  - Display : "HE1"(Over Heat),
  - Display : "HE2", indicating no operation of HE.
9. Pressure S/W (Single Part Trouble) Error
  - ※ Frequency signals(kHz) generated by water level S/W

Water Level	Low	High
Abnormal Frequency	30.00 KHz	15.00 KHz

  - If the above frequency signals are displayed longer than 5sec, it indicates Pressure S/W Error.
  - Drain water for 3 minutes for that Error, and turn OFF water drain pump. Pressure S/W Error display " IE" will be shown. .
10. Abnormal Water Temperature ERROR
  - Water drain begins if abnormal water temperature is sensed at the initial time of water supply. If the frequency higher than 25.20KHz is sensed, water will be drained by force.
  - Display : "CE"
  - This error will be released by turning off Power S/W.

- 
11. Natural Drain/Water Leak Error
    - If more than 4 times of water supply and safe water level of Heater are sensed for each course, this error will occur.
    - Display : "LE"
    - This error will be released by turning off Power S/W.
  12. Tacho Error
    - If Motor Tacho is abnormal, this error will occur.
    - If Tacho signals are inputted less than 2 for 2sec after Motor started, this error will occur.
    - Display : "3E"
    - This error will be released by turning off Power S/W.
  13. Motor TRIAC Short Error
    - If Tacho signals are inputted more than 300 every 1sec in the operational interval less than 90RPM, this error will occur.  
Turn off Power S/W at that time.
    - Display : "bE"
    - This error will be released by turning off Power S/W.
  14. Thermistor Abnormal Error
    - If Thermistor circuit is abnormal, this error will occur.
    - If Thermistor is lower than 0.2V or higher than 4.5V, this error will occur.
    - Display : "tE"
    - This error will be released by turning off Power S/W.

## 4-2. TEST MODE



### 1. Driving Compartment Test Mode

- A. Hold down "1" and "2" keys simultaneously and then press POWER S/W "4" on.  
(Whole lamps turn on and display show "t1" after 3 Seconds.)
- B. The driving compartment can be tested when you press "3" key right after entering into the initial stage of the TEST MODE.

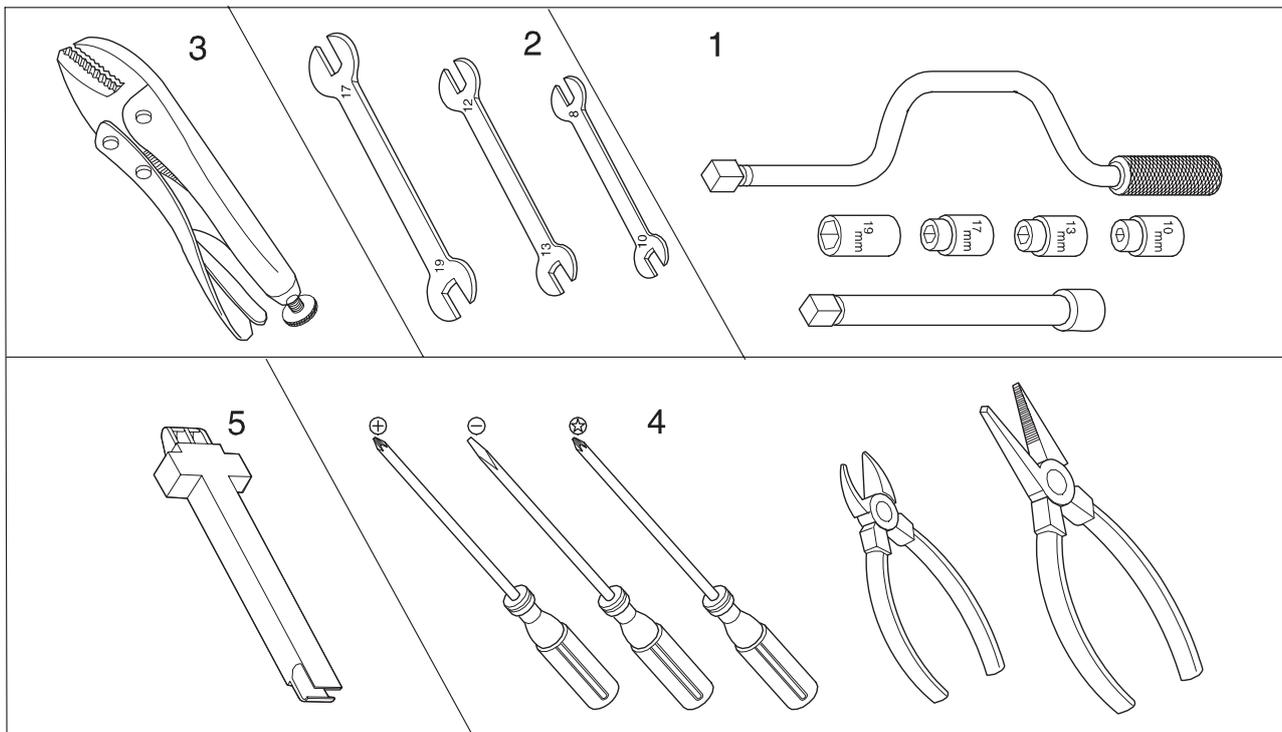
- Driving Compartment Test

Pre-wash VALVE ON(0.3sec) → OFF(0.3sec) → COLD VALVE ON(0.3sec) → [OFF(0.3sec) → HOT VALVE ON (0.3sec) ] → OFF(0.3sec) → Rinse VALVE ON(0.3sec) → OFF(0.3sec) → Pump MOT OR ON(0.3sec) → OFF(0.3sec) → MOTOR Left (0.5sec) → OFF(0.5 sec) → MOTOR Right (0.5sec) → OFF(0.3sec) → HEATER RELAY ON(0.3sec)→ OFF(0.3sec) → DOOR OPEN (Function continues when door is closed)

## 5. ASSEMBLY AND DISASSEMBLY

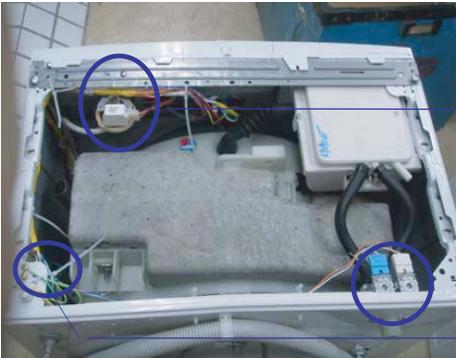
### 5-1. TOOLS FOR DISASSEMBLY AND ASSEMBLY

NO.	TOOL		
1	Box driver	10mm 13mm 19mm	Motor (1), Balance (5), 2 holes of each left and right of the shock absorber 1 Pulley hole
2	Double-ended spanner	10, 13, 19mm	Replaceable for the box driver. Since the bolt runs idle when the box driver is used, use the box driver 17mm.
3	Vice pliers		Tool to protect the idle and abrasion of the bolt for the box driver.
4	Other(Driver, Nipper, Long nose)		General tools for the after service.
5	JIG for the Tub		1 (Disassemble and Assemble)



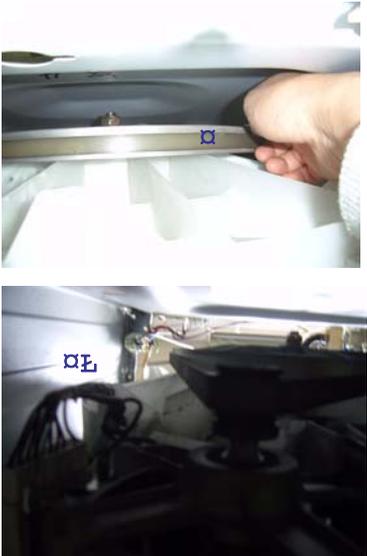
## 5-2. ASSEMBLY AND DISASSEMBLY

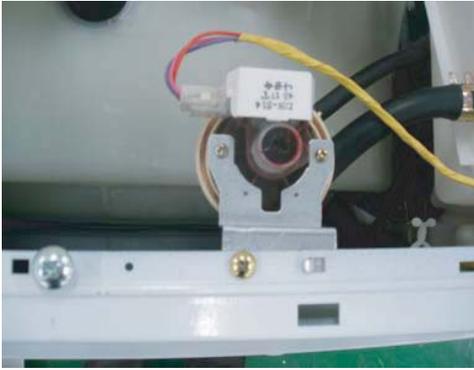
Warning! To avoid risk of electrical shock, personal injury or death, disconnect the power to the washing machine

Part Name	Descriptive Picture	How To Do
<p>ASS'Y-COVER TOP</p>		<p>① Remove the two screws holding the Top Cover at the back of the unit.</p>
		<p>② Remove the top-cover through pushing and pulling.</p>
		<p>③ Then, the Water (Pressure) Sensor, Noise Filter and Water Valve can be replaced.</p> <div style="display: flex; flex-direction: column; align-items: flex-end; margin-top: 10px;"> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="border: 1px solid black; padding: 2px 5px;">sensor pressure</div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="border: 1px solid black; padding: 2px 5px;">water valve</div> </div> <div style="display: flex; align-items: center;">  <div style="border: 1px solid black; padding: 2px 5px;">noise filter</div> </div> </div>

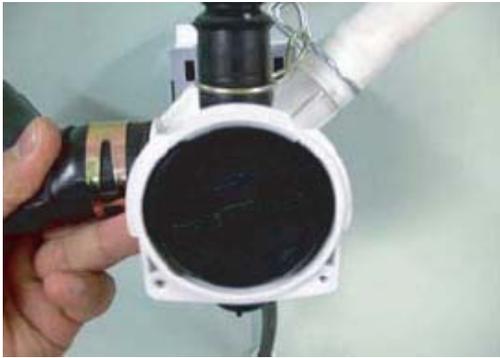
Part Name	Descriptive Picture	How To Do
FRAME FRONT		<p>① Remove the Top Cover and the Ass'y Drawer.</p>
		<p>② Remove the two screws on the front of the control panel.</p>
		<p>③ Remove the two screws on the plate(u).</p>
		<p>④ Remove the control panel by disconnecting the connector that connects PCB to the wire-harness.</p>

Part Name	Descriptive Picture	HowTo Do
<b>FRAME FRONT</b>		<ul style="list-style-type: none"> <li>□° Insert a flat head screwdriver into the gap and pry down the Cover Front (Left) to separate it.</li> </ul>
		<ul style="list-style-type: none"> <li>□ Remove the Wire Diaphragm from the Frame Front and unseat the Diaphragm.</li> </ul>
		<ul style="list-style-type: none"> <li>□ Remove the 7 screws on the frame front.</li> </ul>

Part Name	Descriptive Picture	How To Do
BELT		<p>Before removing the belt, should be opened the Cover Bottom.</p>
		<ul style="list-style-type: none"> <li>□ Remove the belt before the re-assembly.</li> <li>□ Ensure the belt is placed on the center of the motor pulley.</li> </ul> <p>&lt;Belt Assembly&gt;</p> <p>Hang the belt on the motor pulley(□ ) before placing it around the pulley (□)</p>
MO TOR		<ul style="list-style-type: none"> <li>□ Remove the wire housing from the motor.</li> <li>□ Remove the bolts holding the motor by using the power screwdriver.</li> <li>□ Remove the motor.</li> </ul>

Part Name	Descriptive Picture	How To Do
Water Supply Valve		<p>① Remove the fixing screws for the water supply valve.</p>
		<p>② Disconnect the valve wires. ③ Separate the water hoses.</p>
Water Level Sensor		<p>① Remove the top cover.</p>
		<p>② Remove the fixing screws for the water level sensor. ③ Disconnect the water level sensor harness. ④ Disconnect the hose pressure. ⑤ Replace the water level sensor.</p>

Part Name	Descriptive Picture	How To Do
Door-Hinge		<ol style="list-style-type: none"> <li>① Remove the fixing screws holding the Door-Glass.</li> <li>② Separate the glass.</li> </ol>
		<ol style="list-style-type: none"> <li>③ After removing the two screws holding the Holder Glass, replace the Door Hinge.</li> <li>④ After putting them back together, check if the screws holding the Door Hinge is fastened properly.</li> </ol>
Drain Pump		<ol style="list-style-type: none"> <li>① Insert the flat head screwdriver into the slot on the top of the Cover Filter and lever it down to separate it.</li> </ol>
		<ol style="list-style-type: none"> <li>② Unscrew the drain filter by turning it counter clockwise.</li> </ol> <p>- The water remaining inside could flow out. So, put an empty bowl on the floor to hold the water.</p>

Part Name	Descriptive Picture	How To Do
		<p>③ Tilt the unit backward and take out the drain pump.</p>
		<p>④ Disconnect the incoming water hose and the wire harness. (Caution: Check if the unit is plugged out. There is possibility of electric shock.)</p>
		<p>⑤ Separate the Hose Filter Tub and the Drain Hose.</p>
	<p>※ CHECK POINT</p> <ol style="list-style-type: none"> <li>1. Remove the Drain Filter and check if there are foreign substances (coin, buttons, etc) blocking inside - If so, clear the inside.</li> <li>2. Check if the wire harness is connected properly - If not, connect it properly.</li> <li>3. If water leaks, check if the Clamp Hose and the Cap Drain are assembled tightly - If not, assemble them tightly. Remove the water remaining inside by turning the Filter counter clockwise.</li> </ol>	

Part Name	Descriptive Picture	How To Do
Door S/W		<p>① Open the Door.</p>
		<p>② Remove the Spring Diaphragm and separate the Diaphragm from the Frame Front.</p> <ul style="list-style-type: none"> <li>- Insert the flat head screwdriver and pry up the spring to remove the Spring Diaphragm.</li> <li>- The Diaphragm could get damaged when taking it out. So, unseat it in one direction slowly.</li> </ul>
		<p>③ Remove the screws holding the Door S/W.  ④ Take out the Door S/W.  ⑤ Disconnect the wire connector. (Press the hook to unlock the tab and plug it out.)</p>
Heater		<p>① Remove the frame-front.</p>

Part Name	Descriptive Picture	HowTo Do
		<p>⊞ Disconnect the Connector Housing.</p>
		<p>⊞ Remove the nut holding the Heater and separate the Heater.</p>
		<p>⊞ Take out the Heater from the Tub.  <i>(i Caution: Be sure to insert the Heater into the Bracket in the Tub. If not, it may cause a fire. And, make sure to have the Packing seating on its place. Fasten the nut with 5Kgf/s.t. If the nut is fastened loosely, it may cause water leakage.)</i></p>

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## 6. TROUBLE DIAGNOSIS

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### 6-1. TROUBLE DIAGNOSIS

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- As the micom wash machine is configured of the complicate structure, there might be the service call.

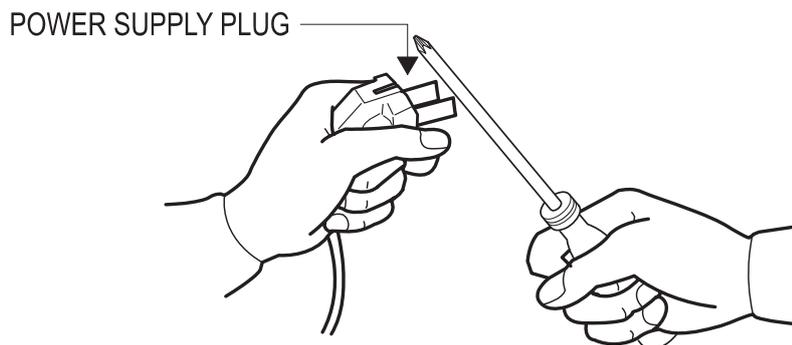
Below information is prepared for exact trouble diagnosis and suitable repair guide.

### Caution for the Repair and Replacement

---

Please follow below instruction for the trouble diagnosis and parts replacement.

- 1) As some electronic components are damaged by the charged static electricity from the resin part of wash machine or the human body, prepare the human body earth or remove the poten difference of the human body and wash machine by contacting the power supply plug when work contacting to PCB is executed.

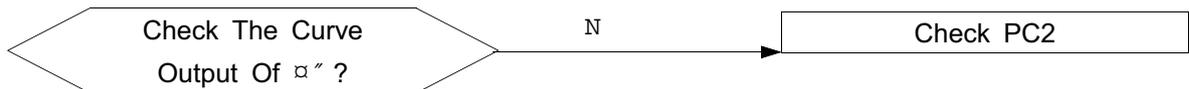
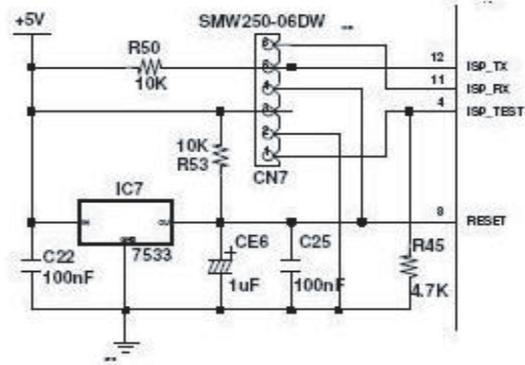
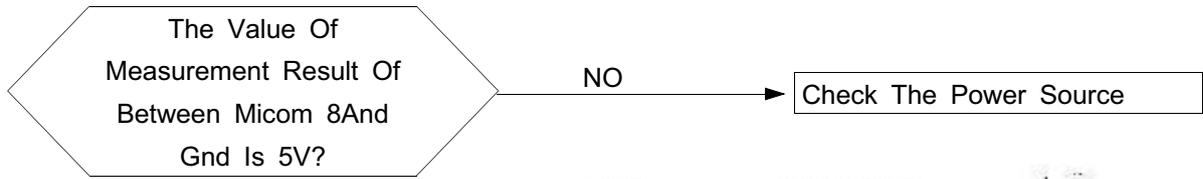


- 2) Since AC 220~240V is applied to the triac T1 and T2 on P.C.B, the electric shock may occur by touching and be careful that the strong and weak electricity are mixed.
- 3) As the P.C.B assembly is designed for no trouble, do not replace the P.C.B assembly by the wrong diagnosis and follow the procedure of the trouble diagnosis when the micom is not operated normally.

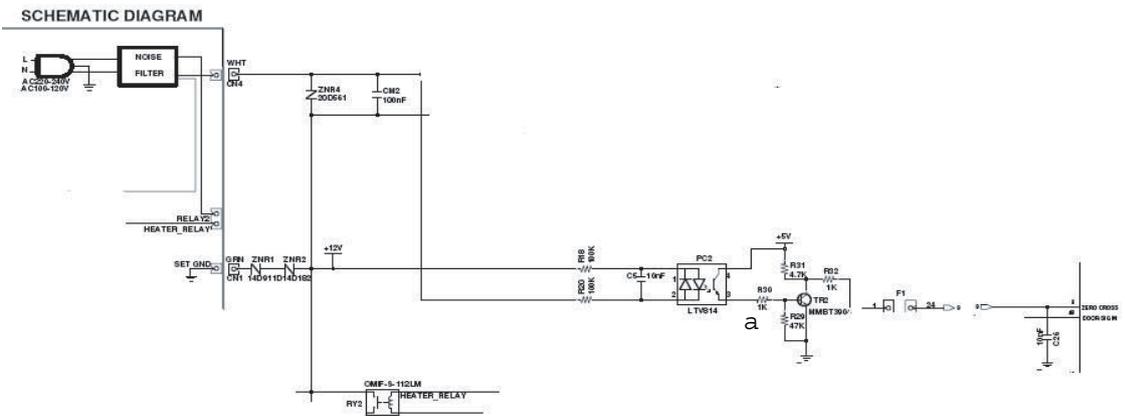
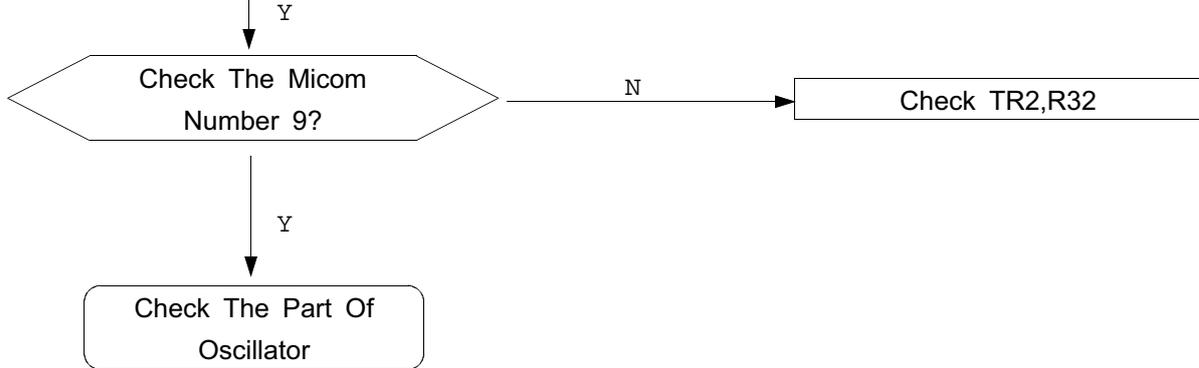
No	Item	Cause and treatment
1	The power is not supplied	<ul style="list-style-type: none"> <li>- Is the PCB connector connected well?</li> <li>- Is the voltage normal?</li> <li>- Is the power supply plug connected well?</li> <li>- Is the noise filter connected well?</li> <li>- Is the secondary output of the power supply transformation normal?</li> <li>- Is the fuse disconnected? (option)</li> <li>• If above points are not found, the PCB assembly is out of order. Replace it.</li> </ul>
2	The water is not supplied.	<ul style="list-style-type: none"> <li>- Is the knob open?</li> <li>- Did you push START/PAUSE button after selecting the course?</li> <li>- Is the water supply valve connected well?</li> <li>- Is the winding of the water supply valve continuous?</li> <li>- Is the connection and operation of the pressure switch normal?</li> <li>• If above points are not found, the PCB assembly is out of order. Replace it.</li> </ul>
3	The wash does not start though the water supply is stopped.	<ul style="list-style-type: none"> <li>- Is the connection and operation of the pressure switch normal?</li> <li>- Is the pressure switch hose damaged so that the air is leaked?</li> <li>- Is the pressure switch hose bent?</li> <li>- Check the operation of the water level switch.</li> <li>• If above points are not found, the PCB assembly is out of order. Replace it.</li> </ul>
4	The drum does not rotate during washing.	<ul style="list-style-type: none"> <li>- Is the belt connected well?</li> <li>- Is the winding of the motor continuous? (Rotor winding, stator winding, generator)</li> <li>- Is the motor protector normal?</li> <li>• If above points are not found, the PCB assembly is out of order. Replace it.</li> </ul>
5	The drum rotates by one direction during washing. (The drum rotates to one direction for SPIN.)	<ul style="list-style-type: none"> <li>- The PCB assembly is out of order. Replace it. (Inversion relay open trouble)</li> </ul>
6	Drainage problem.	<ul style="list-style-type: none"> <li>- Is the drainage hose bent?</li> <li>- Is the winding of the drainage pump continuous?</li> <li>- Is the drain filter clogged by the waste?</li> <li>• If above points are not found, the PCB assembly is out of order. Replace it.</li> </ul>
7	Dehydration problem.	<ul style="list-style-type: none"> <li>- The unbalance is detected.</li> <li>- Put in the laundry uniformly and start again.</li> </ul>
8	Abnormal noise during SPIN.	<ul style="list-style-type: none"> <li>- Is the pulley nut loosen?</li> <li>- Is the transport safety device removed?</li> <li>- Is the product installed on the level and stable place? (Little noise may be generated during the high-speed SPIN.)</li> </ul>
9	Leak breaker or current/leak breaker is down during washing.	<p>&lt;When the leak breaker and current breaker is installed separately&gt;</p> <ul style="list-style-type: none"> <li>- When the leak breaker is down, check and make the earth of the outlet.</li> <li>- When the current is down, the current is leaked.</li> </ul> <p>&lt;Is the breaker down when the leak/current breaker is combined?&gt;</p> <ul style="list-style-type: none"> <li>- Check the rated capacity of the current and leak breaker. The current breaker may be down due to the lack of the current when the wash machine and other apparatus are used. In this case, execute the cold water wash to check whether the current capacity is lack.</li> </ul>



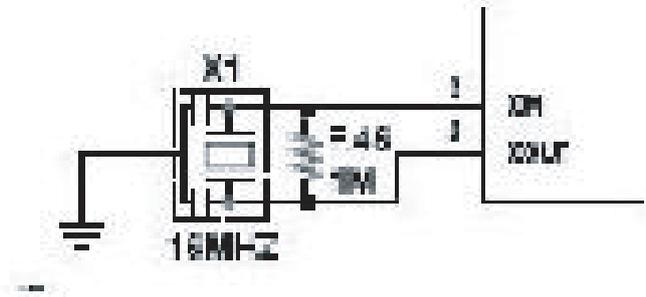
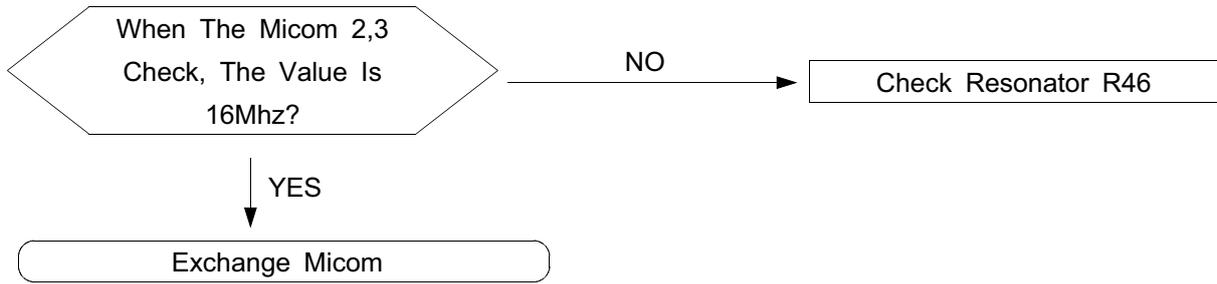
6-2-2. Reset Part



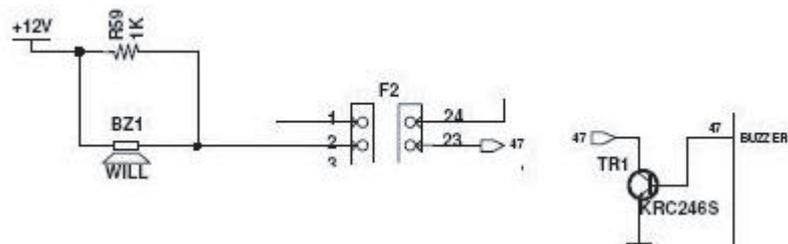
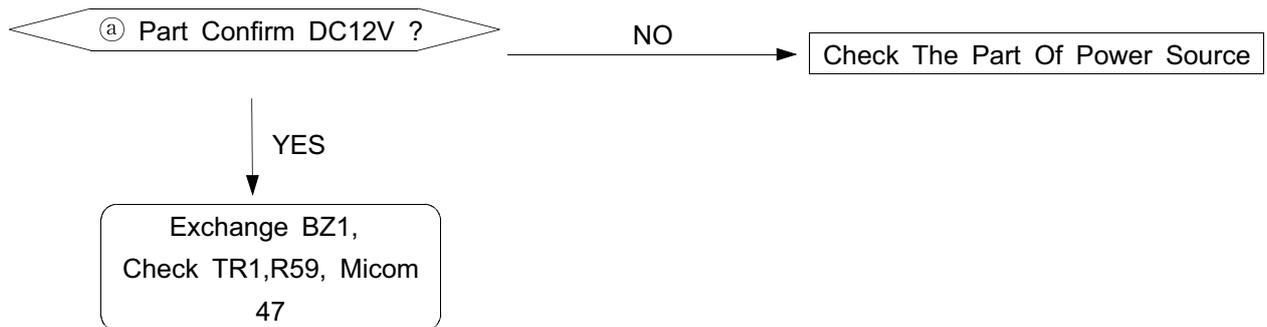
6-2-3. Interrupt Part



6-2-4. Checking The Part Of An Oscillator

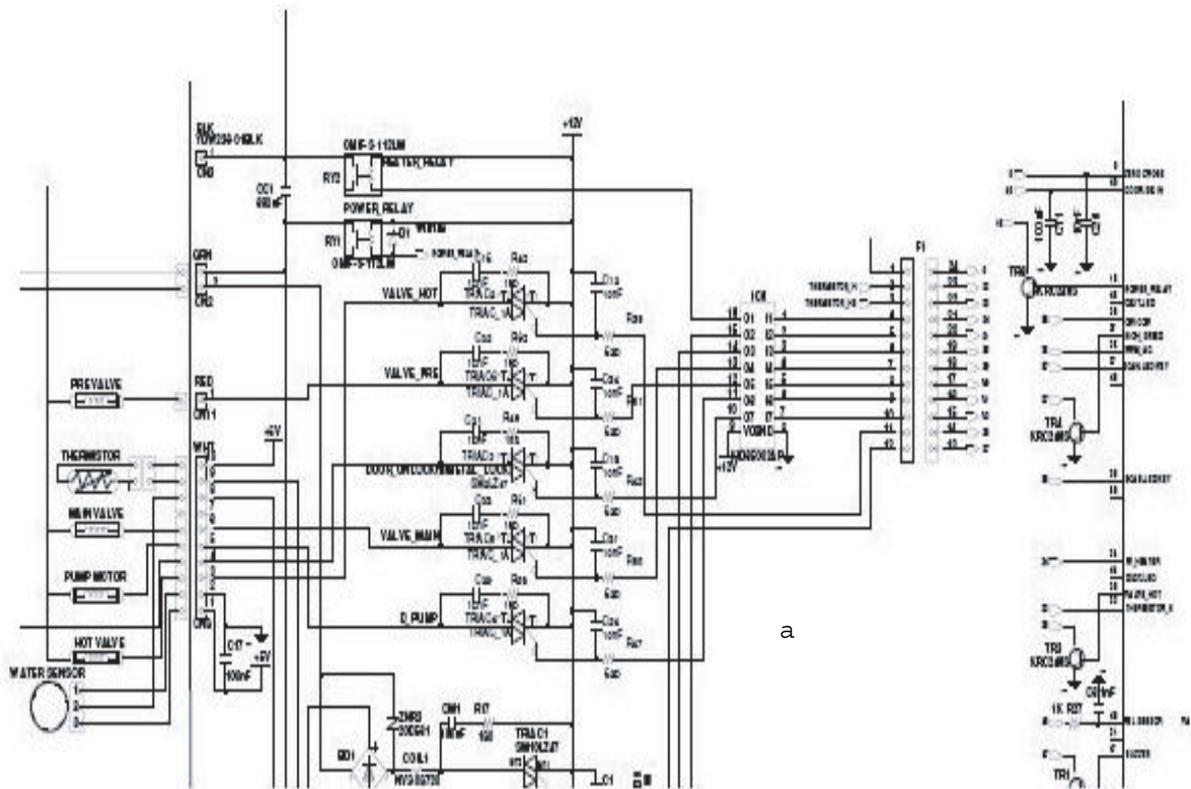
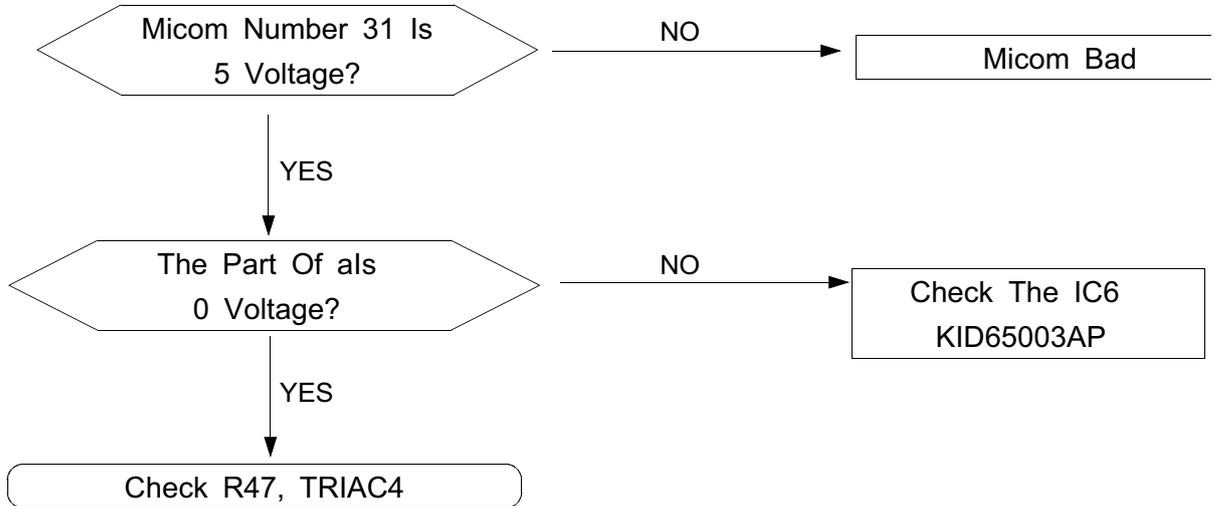


6-2-5. Check The Part Of Buzzer



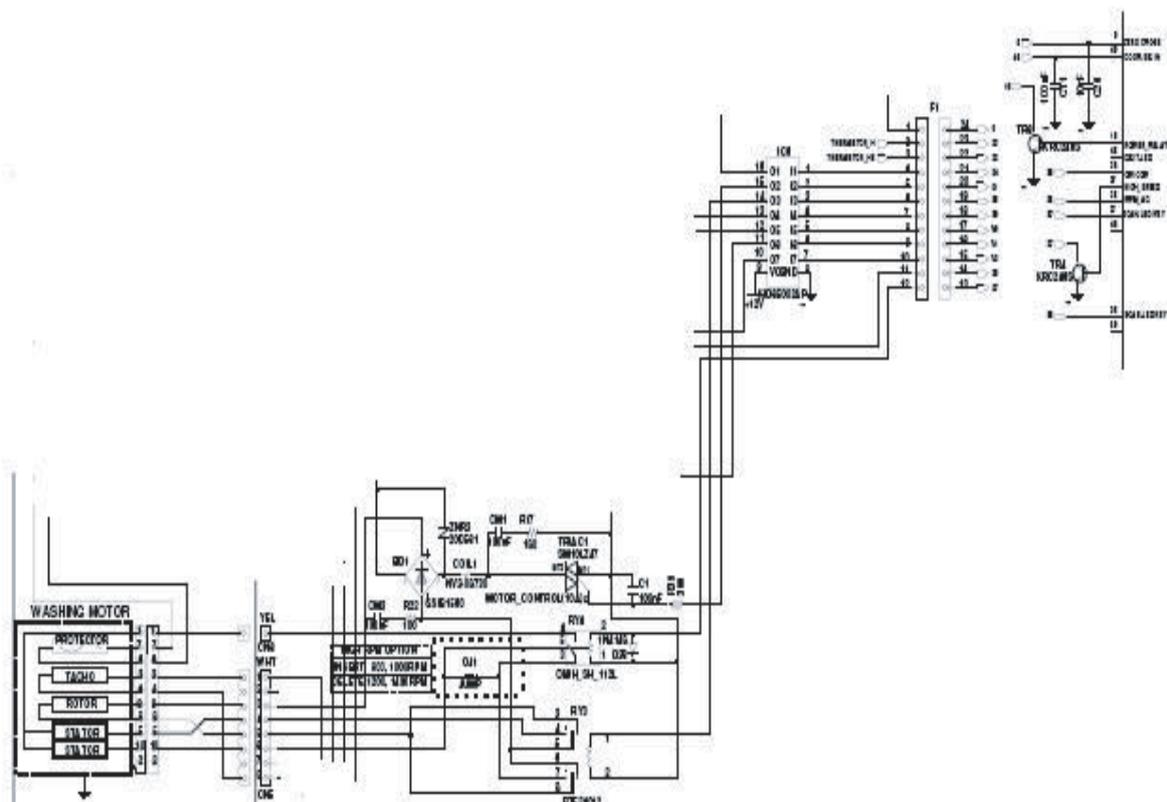
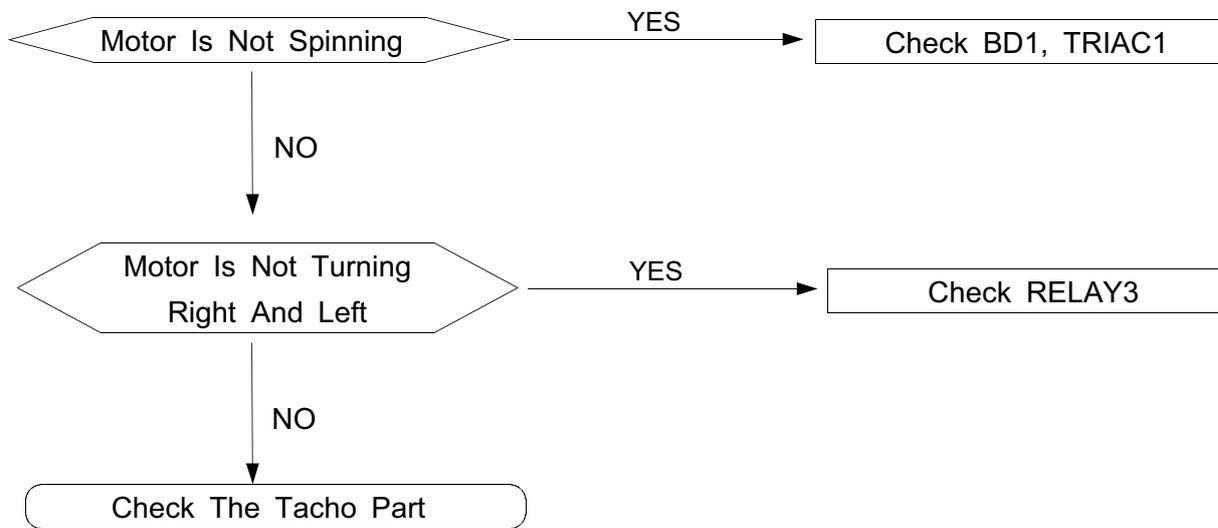
## 6-2-6. Driving Part Checking

- ◆ Confirm The Output Of DC5V, When The Every Part Of Micom Number Check, According To The Some Problem Condition  
 ex) When The Drain Is Not Operating But Pump Motor Is Operating, Check The 5Voltage Of Micom



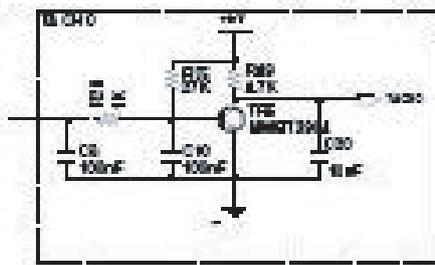
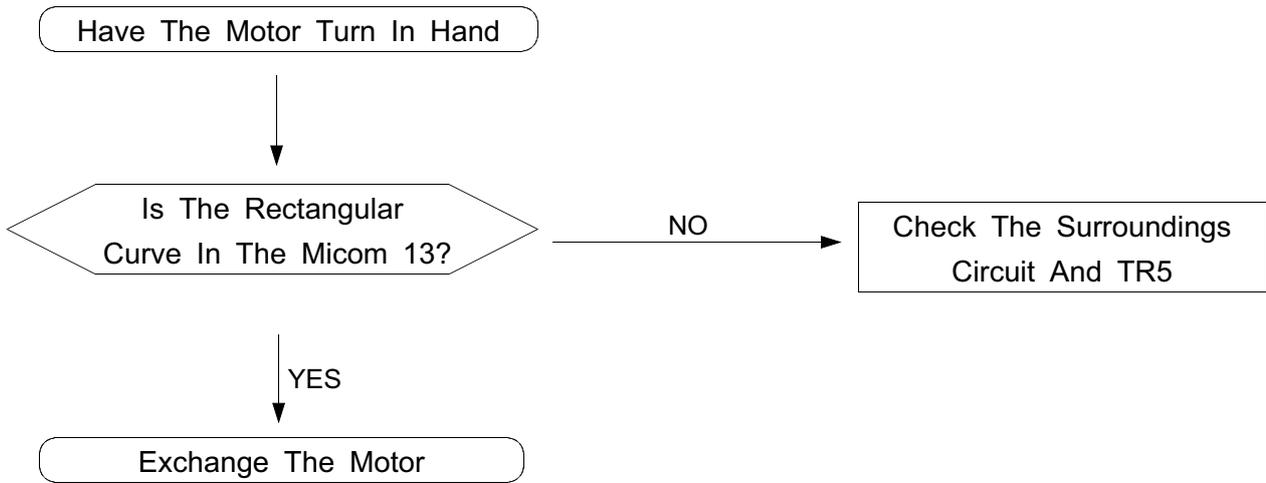
※ Check The Micom 18th In The Above Method When The Cold Water Is Bad

6-2-7. Confirm The Driving Part Of Motor

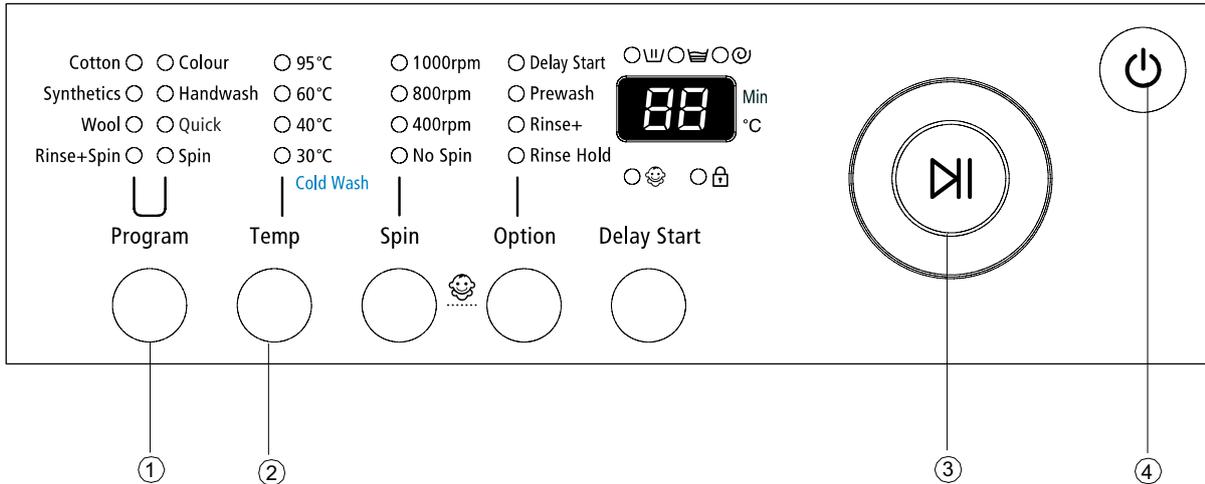


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6-2-8. Checking The Tacho Part



### 6-3. DETAILED DIAGNOSIS



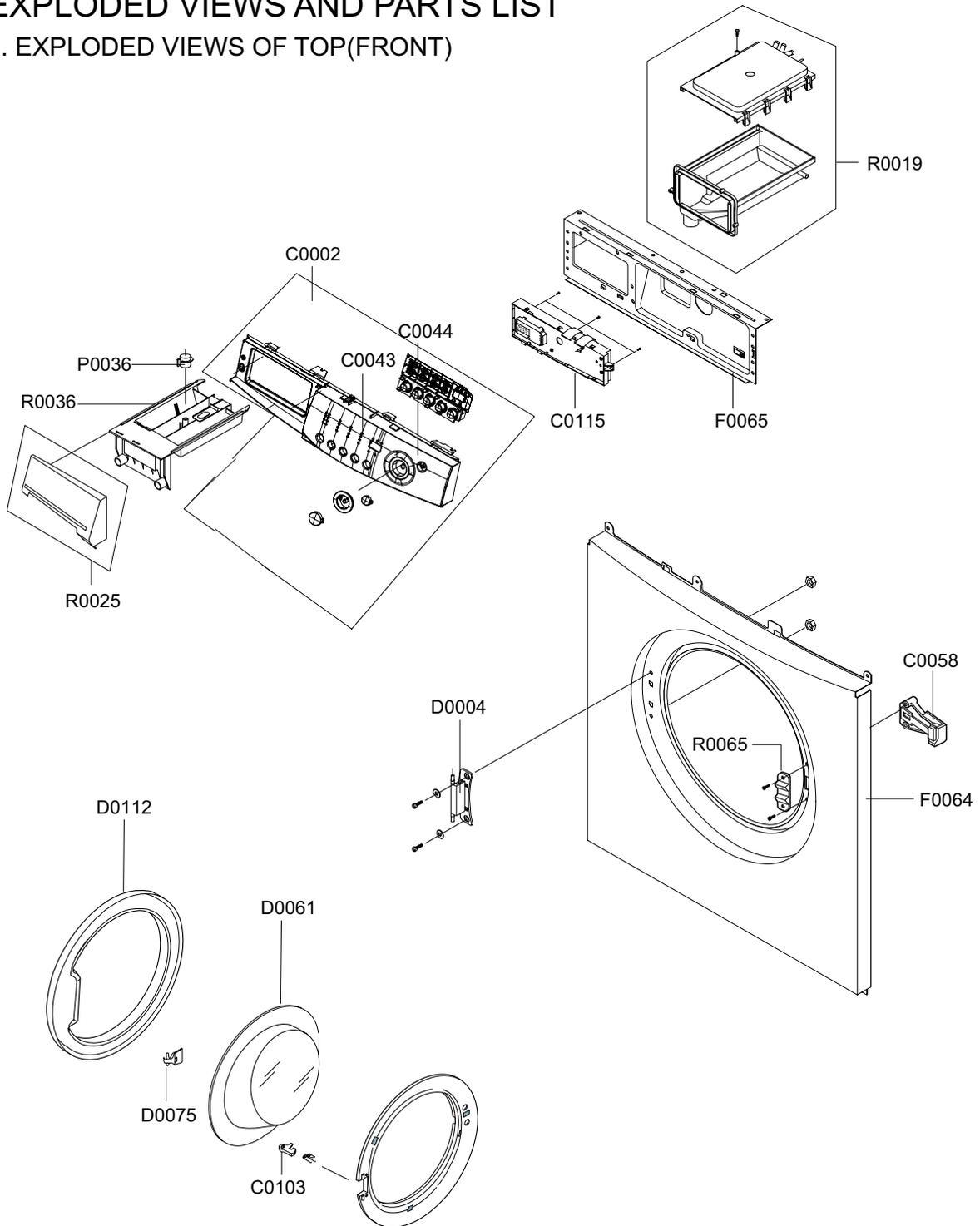
#### 1. Driving Compartment Test Mode

- A. Hold down the ① and the ② buttons simultaneously and then press the Power button ④. (All of the LEDs light up and the display shows t1 in 3 seconds.)
- B. The driving part can be tested when you press the push button dial ③ right after entering into the TEST MODE.

No	Check	Test Method	Description
1	Motor	Check if the motor operates or check the Motor terminals.	Motor Wiring (Red/White①/Blue/Pink/Violet/White②) Resistance between Blue-Red, Red-White① and White①-Blue should be $2.0\Omega \pm 10\%$ .
2	Water Valve	Check if it supplies water or check the Water Valve terminals.	Check resistance of the Water Valve terminals.
3	Drain Pump	Check if it drains normally or check the pump terminals.	Check resistance of the Drain Pump terminals.
4	Door S/W	Check if it works at the Cotton course or check the Door S/W terminals.	Check resistance of the Door S/W terminals.
5	Water Pressure Sensor	Refer to Page 15. (Water Level Table at each Course)	Check frequency (Hz) between the Water Pressure Sensor terminals.
6	MAIN PCB	1. Press the buttons on the display. Check if all of the LEDs work. 2. Check if voltage between the white and the black terminals is 220~240V.	1. Replace the SUB PCB. 2. If not, replace the Noise Filter.

## 7. EXPLODED VIEWS AND PARTS LIST

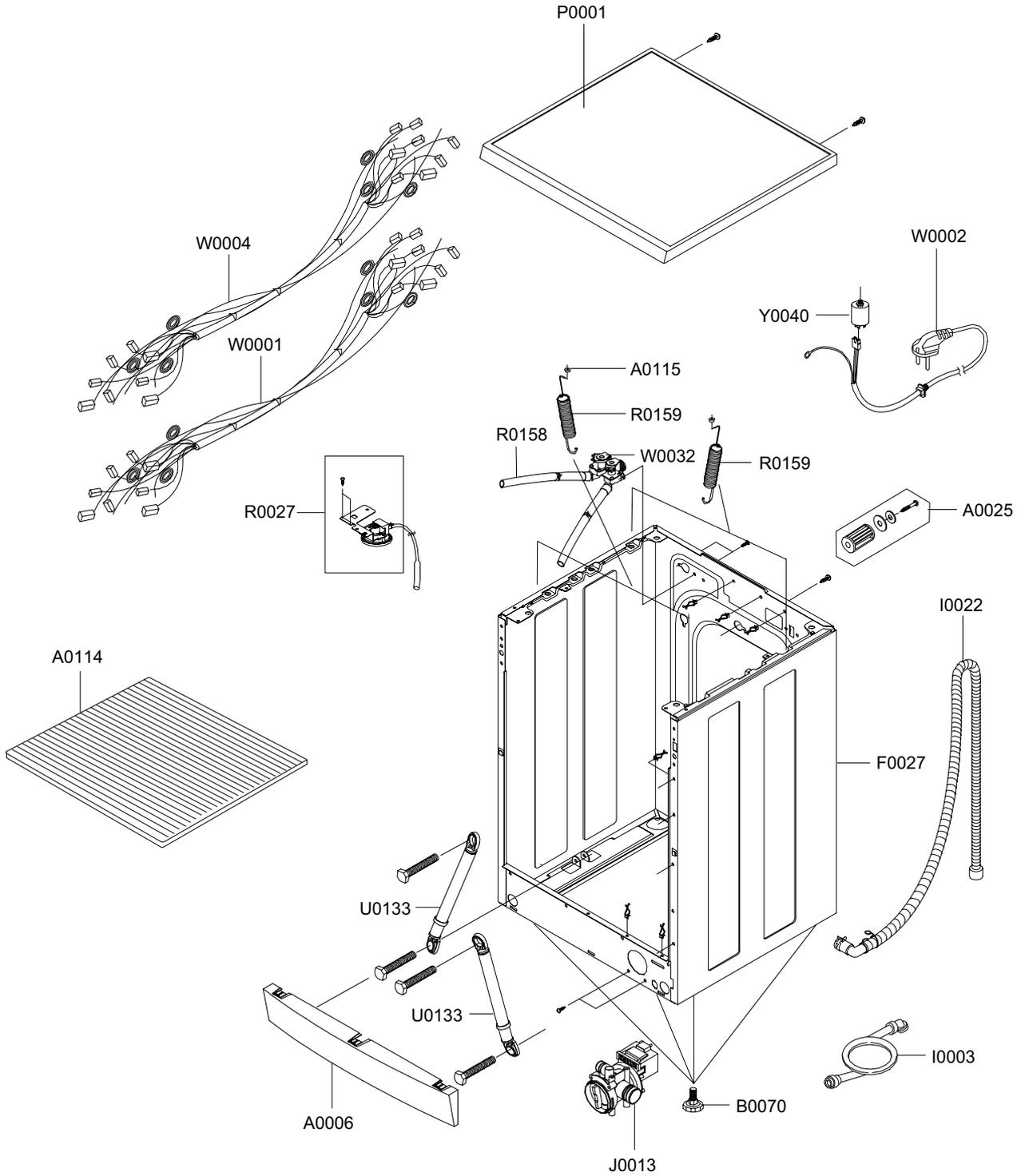
### 7-1. EXPLODED VIEWS OF TOP(FRONT)



TOP(FRONT)



7-3. EXPLODED VIEWS OF CASE



(CASE)

## 7-4. PARTS LIST

NO.	CODE NO.	DESCRIPTION	SPECIFICATION	QTY	SA/SNA	REMARK
A0006	DC61-10672A	COVER-FRONT(L)	SWF-P12,PP(BJ-730),-, -, -,	1	SA	
A0025	DC97-02106A	ASSY-FIXER TUB	S1005J,SLIM-PJT	5	SA	
A0034	DC60-40146A	BOLT-SPANER	-, -, OD36,T2.5,L52,FE,FZY,-,P	1	SA	
A0043	DC61-10688A	CAP-FIXER	SWF-P12,PP(TB53),-, -, -,WHT,-,	5	SA	
A0043	DC61-10688A	CAP-FIXER	SWF-P12,PP(TB53),-, -, -,WHT,-,	1	SA	
A0114	DC64-00434A	SHUTTER	F1215J/F-PJT,PP,-, -, -,WHT,-	1	SA	
A0115	DC61-60180A	SLEEVE-PLUG	NYLON#6,SEW-720DR,-, -, -,NTR	4	SA	
A0362	DC61-40081A	HOLDER-WIRE	DAWH-2NC,NYLON66,-, -, -, -,NTR	6	SA	
B0070	DC97-02079D	ASSY-LEG	SBP2,SD455,SD405,FLANG TYPE/25M	4	SA	
C0002	DC97-11139A	ASSY-PANEL CONTROL	WF-F1061/YLP,4.5KG/RU	1	SA	WF- R1061
C0002	DC97-11139C	ASSY-PANEL CONTROL	WF-F861/YLP,4.5KG/RUS1	1	SA	WF-R861
C0043	DC64-01179A	BUTTON-PUSH(F)	TRIUMPH,ABS,-, -, -,NEAT-WHT,	1	SA	
C0044	DC64-01178A	BUTTON-PUSH(P)	TRIUMPM,ABS,-, -, -,NEAT-WHT,	1	SA	
C0058	DC64-00653A	DOOR-LOCK S/W	DA,PA6-G,-,H82,W50,-,BLK,2	1	SA	
C0103	DC66-00355A	LEVER-DOOR	SD455-PJT,POM,-, -, -, -,WHT,EMZ	1	SA	
C0115	MFS- TRF1NPH-00	ASSY PCB PARTS(M)	MFS-TRF1NPH-	1	SA	WF- R1061
C0115	MFS- TRF8NPH-00	ASSY PCB PARTS(M)	MFS-TRF1NPH-;	1	SA	WF-R861
D0004	DC97-00100C	ASSY-HINGE	S1005J,OPEN ANGLE 180DEG	1	SA	
D0045	DC97-04750A	ASSY-HOLDER GLASS	SB-PJT,HOLDER+HINGE	1	SA	
D0061	DC64-00920C	DOOR-GLASS	S,P,F MODEL(LOW),GLASS,T5.0,H	1	SA	
D0075	DC64-00646A	HANDLE-DOOR	SD455-PJT,POM,-, -, -, -,WHT,RO	1	SA	
D0112	DC61-00055A	COVER-DOOR	P6091,ABS,-, -, -, -, -,WHT,ROUND	1	SA	
F0027	DC99-00298A	ASSY-PAINT FRAME	F813J,COLD/F-MODEL	1	SA	
F0064	DC97-00702D	ASSY-FRAME FRONT	SB-PJT/WHT,ROUND-TYPE	1	SA	
F0065	DC97-05134B	ASSY-FRAME PLATE(U)	WF-R1053/XSC,R-PJT/S	1	SA	
I0003	DC62-10289C	HOSE-WATER(C)	RUSSIA,PVC+NYLON,ID10.3,-,	1	SA	
I0022	DC97-00139E	ASSY-HOSE DRAIN(O)	SB-PJT,PP/L1770/CHINA	1	SA	
I0030	DC62-10278A	HOSE-HANGER	-,PP(JS20),-, -, -, -,NTR,-	1	SA	
I0043	DC62-10303A	HOSE-AIR	-,EPDM,ID24,-, -, -,L130,BLK,SWF-P1	1	SA	
I0047	DC61-01136A	CLIP-HOSE	F1235J,SK5,T1.0,WHT,ID14.8	4	SA	
I0047	DC61-01136A	CLIP-HOSE	F1235J,SK5,T1.0,WHT,ID14.8	1	SA	
J0013	DC96-01064A	ASSY-PUMP DRAIN	B1015JGW/YLW,220~240V/50	1	SA	
J0019	DC61-10652C	CASE-PUMP	PP(5113MF6),SWT50B1P,-, -, -,GRY	1	SA	
J0025	DC31-00056A	PUMP-DRAIN	-,220~240V,50Hz,-,30W/3000RPM	1	SA	
P0001	DC97-11248A	ASSY-COVER TOP	WF-F1061,TRIUMPH F-SERIES	1	SA	
P0036	DC61-10316B	CAP-RINSE	SEW-740DR,PP(TB-52),-, -, -,BLUE	1	SA	
R0001	DC97-01463J	ASSY-DRUM	F-PJT/SD-PJT/LIFTER,STS430/FIX	1	SA	
R0002	DC66-10179B	DRUM-FRONT	SB-PJT,STS430,-, -, -, -,T0.4	1	SA	
R0017	DC97-02051B	ASSY-DRUM LIFTER	SD405/455-PJT,LIFTER+FI	3	SA	
R0019	DC97-09221E	ASSY-HOUSING DRAWER	WF-F1256/YLP,TROIKA	1	SA	

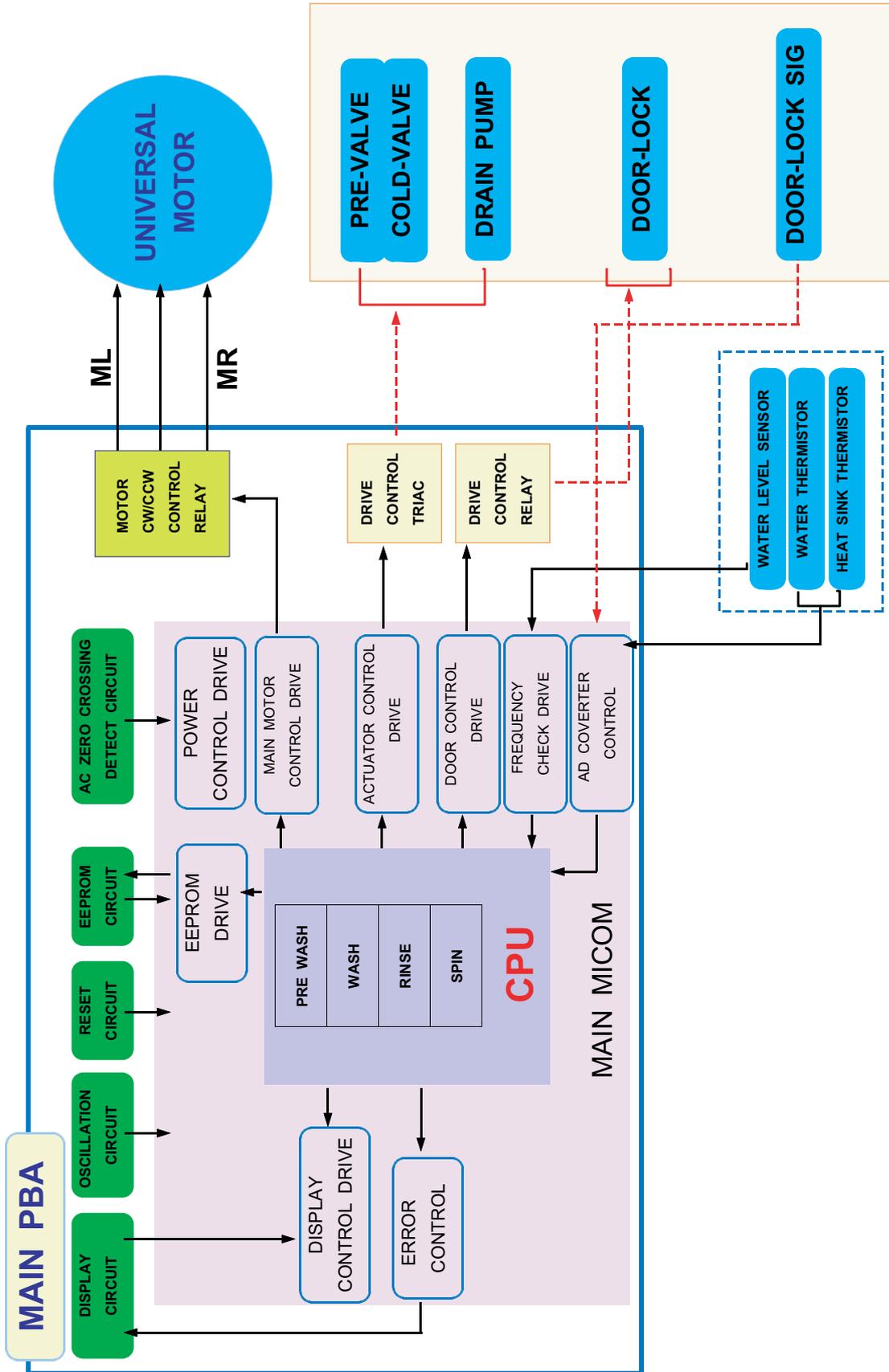
## 7-4. PARTS LIST

NO.	CODE NO.	DESCRIPTION	SPECIFICATION	QTY	SA/ SNA	REMARK
R0025	DC97-11122A	ASSY-PANEL DRAWER	WF-F1061/YLP,4.5KG/RUS	1	SA	
R0027	DC97-00731A	ASSY-SENSOR PRESSURE	P1091,S-PRE+BRACKET+	1	SA	
R0030	DC91-12078A	ASSY-WIRE DIAPHRAGM	SWF-P12,FRAME-FRONT	1	SA	
R0036	DC61-00366A	BODY-DRAWER	SL-600,TB-53,-,-,-,-,-	1	SA	
R0047	DC67-00114A	CAP-FILTER	SW80ASPIW/YMI,P.P,-,-,-,BLK,-	1	SA	
R0065	DC63-00450A	COVER-FRONT	S821,PP,T1.8,-,-,-,-,WHT,GUI	1	SA	
R0106	DD60-50018A	NUT-FLANGE	-,M5XP0.8,FZY,MSWR10,-	2	SA	
R0147	6011-001421	BOLT-FLANGE	M7,L61(29.4),ZPC(YEL),SWRCH1	5	SA	
R0158	DC67-00051D	HOSE-DRAWER	S1093~S6093,EPDM,-,-,-,-,BLK	0.38	SA	
R0158	DC62-10305A	HOSE-DRAWER TUB	-,EPDM,ID35,-,-,L158,BLK	1	SA	
R0159	DC61-01279A	SPRING-HANGER	5.2KG(F631/F831),HSWR,CD2.	2	SA	
R0159	DC61-01280A	SPRING-HANGER	5.2KG(F631/F831),HSWR,CD2.	2	SA	
U0003	DC60-60044B	WASHER-PLAIN	SBC,ID8.4,OD30,T3,-,-,-	5	SA	
U0003	DC60-60044A	WASHER-PLAIN	-,ID10.5,OD30,T3,-,-,STS304	2	SA	
U0005	DC60-60040A	WASHER-NYLON	-,ID10.5,OD32,T2,-,-,PBSP-1/2	5	SA	
U0010	DC66-10176B	PULLEY	ALDC,-,D297,P1291,ID12.5	1	SA	
U0015	DC31-00002E	MOTOR-DRUM	HXGN2I.02,SFW-P8,-,50Hz,-,-,L	1	SA	
U0016	DC62-00007A	SEAL-OIL	-,NBR(SD25),BLK,-,-,-,P6091/NBU	1	SA	
U0018	DC47-00006M	HEATER	-,Triumph-PJT,-,1900W,8.26A,230V,	1	SA	
U0023	DC61-00201A	BRACKET-NUT	SBHG-R,P1291,T3,-,-,-,NO-PAI	1	SA	
U0023	DC61-40348B	BRACKET-NUT	SBHG-R,P1291,T3,-,-,-,NO-PAI	2	SA	
U0023	DC61-40348B	BRACKET-NUT	SBHG-R,P1291,T3,-,-,-,NO-PAI	3	SA	
U0023	DC61-00201A	BRACKET-NUT	SBHG-R,P1291,T3,-,-,-,NO-PAI	1	SA	
U0029	DC64-00374B	DOOR-DIAPHRAGM	F1235,EPDM,-,-,-,-,GRAY,S	1	SA	
U0030	DC61-00365E	TUB-FRONT	R1053,FRPP(GR15%)JINFA,-,-,-,S	1	SA	
U0033	DC62-00121A	HOSE-FILTER TUB	S1005J,EPDM,ID65,-,-,-,-	1	SA	
U0038	DC91-12077D	ASSY-CLAMP DIAPHRAGM	WF-B853/XSC,SWF-12/	1	SA	
U0078	DC97-10977N	ASSY-SEMI TUB BACK	F843,FRPP(15%)JINFA	1	SA	
U0082	DC62-00116A	FILTER-NET	P1205J,EPDM+STS304,-,OD25,ID9	1	SA	
U0095	6602-001072	BELT-TIMING GEAR	POLYURETHAN,L1270,J5,ME	1	SA	
U0133	DC66-00334A	DAMPER-SHOCK	Q1636GW/XEU,-,-,-,-,L197.5,	2	SA	
U0307	DC61-00041A	CUSHION-MOTOR	SWF-6V,BUTYL,-,-,-,-,ID16/OD	1	SA	
U0320	DC60-40144A	BOLT-HEX	M10,L41,ZPC2(YEL),SM10C/ DAMPER	2	SA	
U0320	6011-001447	BOLT-HEX	M8,L123(25),ZPC(YEL),SWRCH18 A,W	1	SA	
U0320	6011-001448	BOLT-HEX	M8,L170(25),ZPC(YEL),SWRCH18 A,W	1	SA	
U0320	DC60-40141A	BOLT-HEX	SM10C/DAMPER,HEX,M8,L66,- ,ZPC2(	2	SA	
U0320	6011-001452	BOLT-HEX	M10,L20,ZPC(YEL),SWCH10AK,A SSY(	1	SA	
U0328	DC62-40183A	PACKING-TUB	SWF-P12,RUBBER,-,-,-,-,BLK	1	SA	
U0353	DC61-00118A	CLAMPER HOSE	P1291,LYLON6/6,ID27,OD30,-,	1	SA	
U0353	DC61-60497A	CLAMPER HOSE	SWF-P12,HSWR,-,ID70/OD75.8,	1	SA	

## 7-4. PARTS LIST

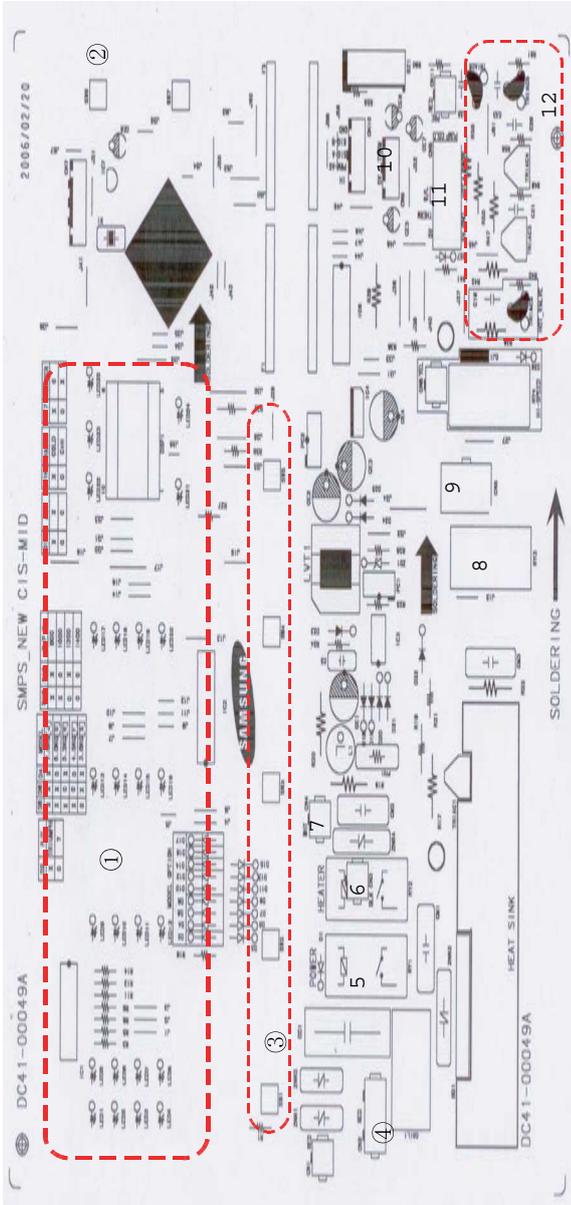
NO.	CODE NO.	DESCRIPTION	SPECIFICATION	QTY	SA/SNA	REMARK
U0353	DC65-00008A	CLAMPER HOSE	SEW-DR605,SK5,-,-,YEL,ID14.	1	SA	
U0353	DC61-60359E	CLAMPER HOSE	F1235AS/F1035AS,-,-,ID7.8,Y	1	SA	
U0353	DC61-60359E	CLAMPER HOSE	F1235AS/F1035AS,-,-,ID7.8,Y	1	SA	
U0353	DC61-60359G	CLAMPER HOSE	F1235AS/F1035AS,-,-,ID37.2,	1	SA	
U0353	DC61-00133A	CLAMPER HOSE	P1291,PP(BJ-730),ID24.5,OD2	1	SA	
U0355	DC67-00042C	WEIGHT-BALANCER	F,R MODEL ETC.,Concrete,	1	SA	
U0355	DC67-00143A	WEIGHT-BALANCER	5.2KG,CONCRETE,-,-,-,U	1	SA	
U0359	DC62-00066A	FILTER-CASE	-,PP,-,-,-,BLK/SW90V2	1	SA	
U0360	DC61-60499B	CLIP-TUB	HSWR,P1291,-,NO/PAINT,	6	SA	
U0360	DC61-60520A	CLIP-TUB	SK5,SWF-P12,-,PLATE-TYPE,	2	SA	
W0001	DC96-01172A	ASSY-WIRE HARNESS	TRIUMPH(A)-PJT WF-R126	1	SA	
W0002	DC96-00146A	asSY POWER CORD	UCP2,-,250V/16A,-,-,-,-,	1	SA	
W0004	DC96-01171A	ASSY-M.WIRE HAR- NESS	TRIUMPH(A)-PJT WF-R1	1	SA	
W0010	DC63-00651A	COVER-HEATER	Q1657TGW/XEU,GI,T0.4,-,-,-,	1	SA	
W0032	DC62-00024F	VALVE-WATER	B1215J,NYLON66/250TRMN,-,-,N	1	SA	
Y0040	DC29-00006A	FILTER-EMI	DFC-2712R,P/PV/SLIM,250V,12A,	1	SA	
Z0004	DC60-50148B	NUT-HEX	SM20C(NYLON),M12,-,-,ZPC3(YEL),-	1	SA	
Z0006	DC97-02412A	ASSY-BOLT	SWF-P12,MOTOR, M8*L62	1	SA	
Z0006	DC97-02412H	ASSY-BOLT	Q1657,-	1	SA	
Z0006	DC97-06159B	ASSY-BOLT	SCD-PJT	1	SA	
	DC64-01181A	BUTTON-PUSH(S)	TRIUMPM,ABS,-,-,NEAT-WHT,	1	SA	

## 8. BLOCK DIAGRAM



# 9. WIRING DIAGRAM

## 9-1. PCB ASSY' LAYOUT

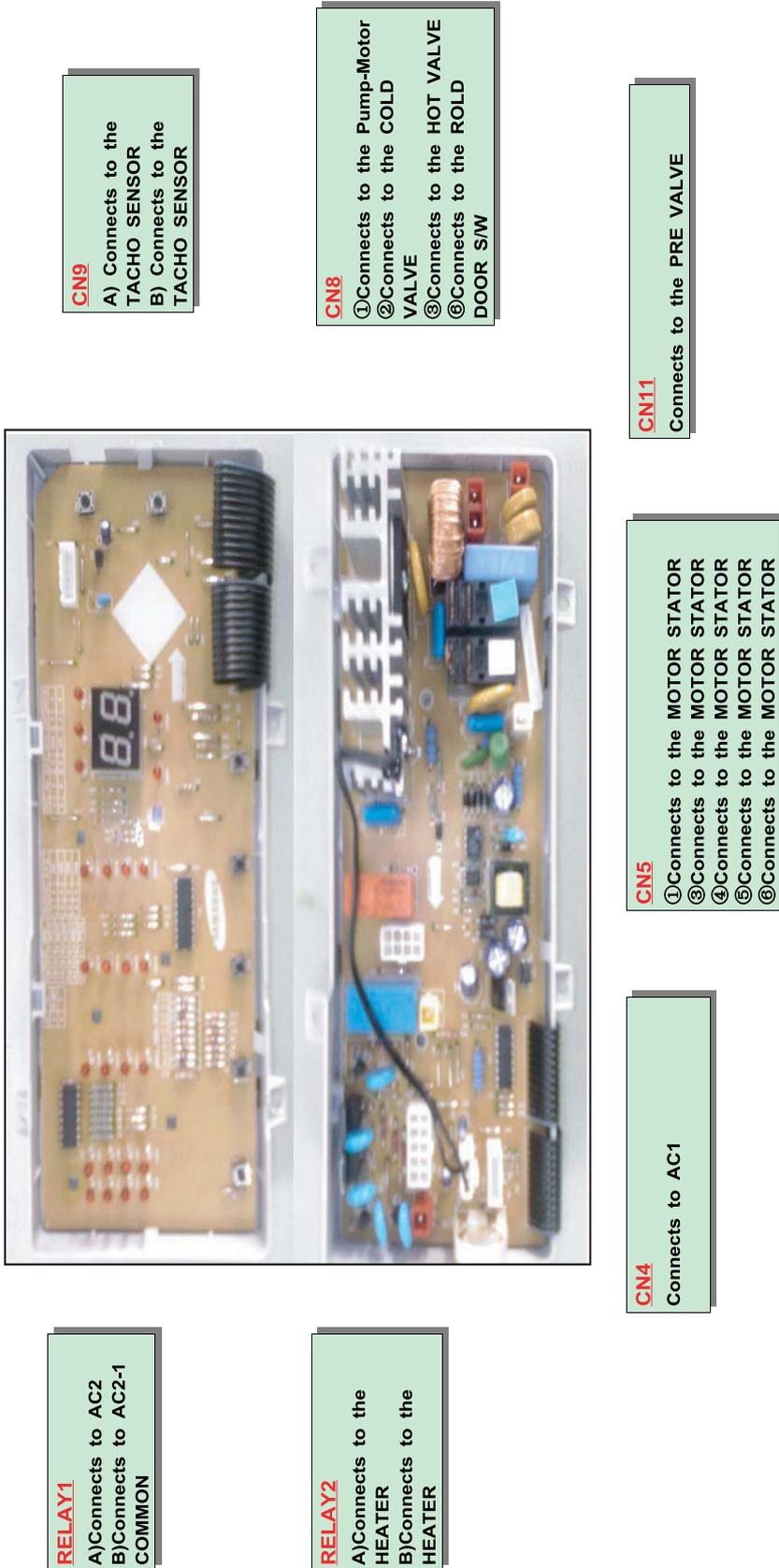


Item	Part Number	Description
14	CN8	Connect the driving system wire
15	CN11	Connect to the pre valve wire
16	CN10	Connect to the silver nano wire
17	CN9	Connect to the heat sink thermistor

Item	Part Number	Description
8	BD1	Convert AC into DC for motor power
9	Triac2	Control motor on/off
10	RY3	Control direction of motor
11	CN5	Connects to the wire of motor
12	RY4	Control on/off as high RPM
13	Operating part	Operating parts as cold/hot/drain/door

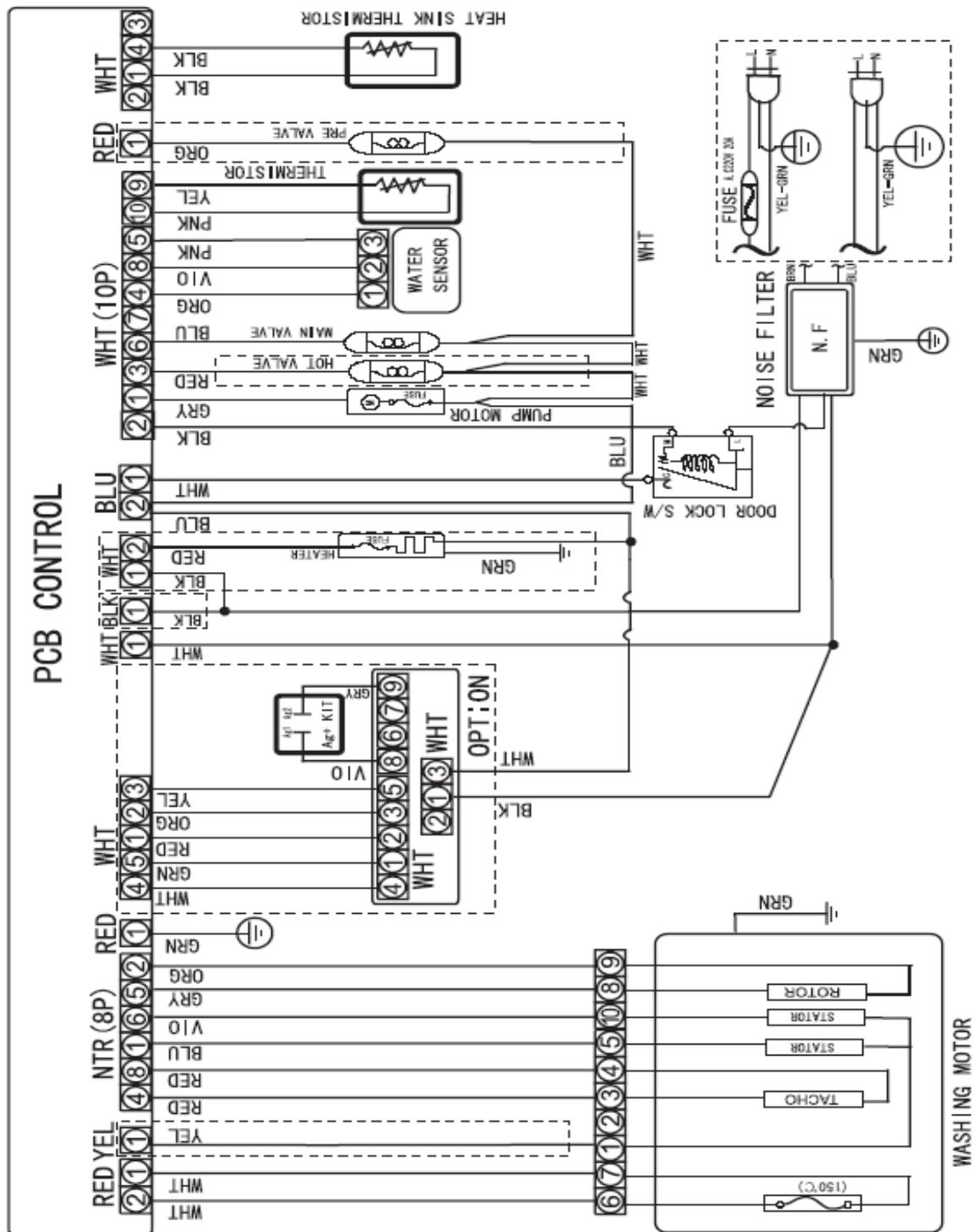
Item	Part Number	Description
1	Display	Displays or indicates operations or functions
2	Power_key	Turns the power on/off
3	Start_key	Starts/stops an option
4	key	Selects and processes each function
5	CN1	Connect to the GND Wire
6	CN2	Detects if the door is open or closed
7	CN4	Connect to the AC1 Wire

## 9-2. Connector & Relay Terminals Description (MAIN PCB)



# 10. SCHEMATIC-DIAGRAM

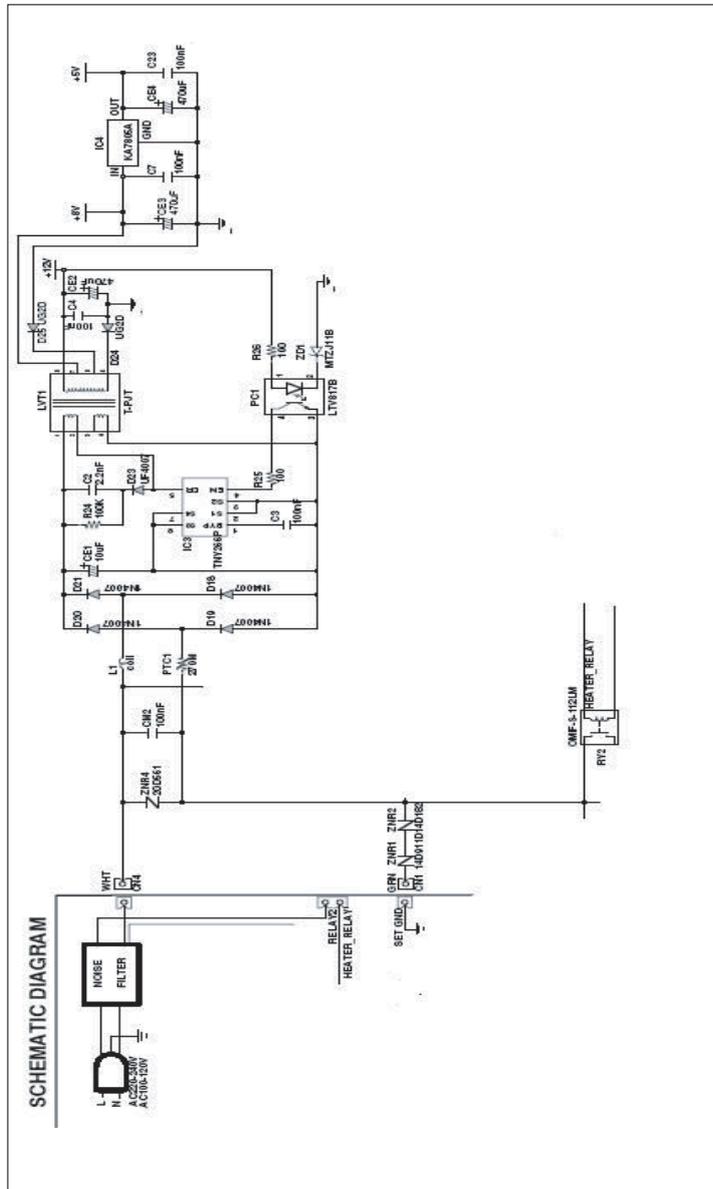
## 10-1. EMZ (WF-F1061)







## 12-2.AC INPUT & POWER CIRCUIT



### ► Function

Generates a required DC power of 12V or 5V in case of supplied or disconnected AC power.

### ► Description

- When AC 220V is applied to D18~D21 it to DC 300V
- When DC 300V is applied to IC3 LVT1 to DC 12V. and dc 8v
- The 8v is transformed to DC 5V through IC4(KA7805).





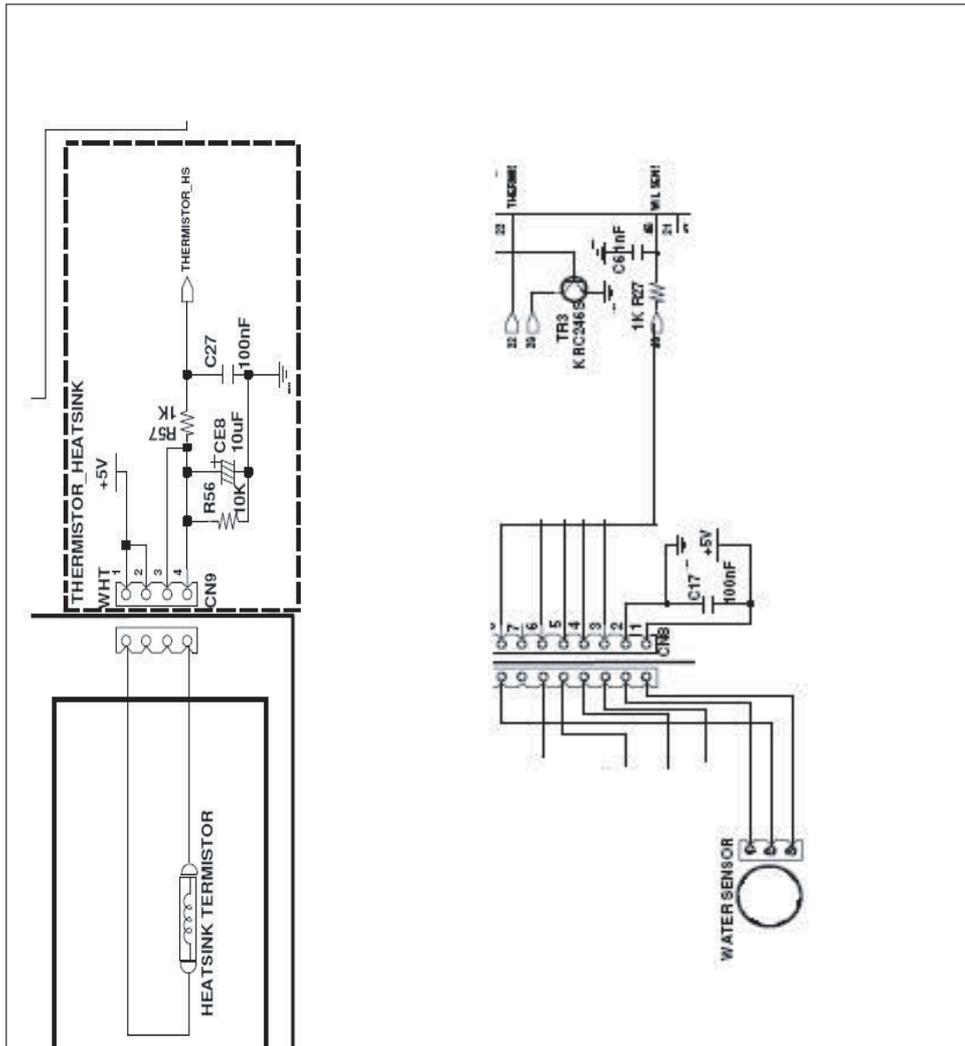
## 12-5.SENSOR DETECTION CIRCUIT

### ► Function

Detects signals from the sensor and controls the current system.

### ► Description

- The water level sensor is connected to pin 8 of CN6.
- The frequency of the level sensor changes according to the water amount in the tub.
- Then, the frequency is input to MICOM pin 48 for detecting the water amount.
- The DHSEH sensor is connected to CN9 ;
- The resistance of the temp. sensor changes according to the ambient temperature. The changed resistance is applied to R56 and R57.
- The voltage applied to R56 and R57 is decided according to the temp. MICOM stores the value.
- When voltage is applied to MICOM pins 23, MICOM compares it to the pre-defined one before detecting the current temp.



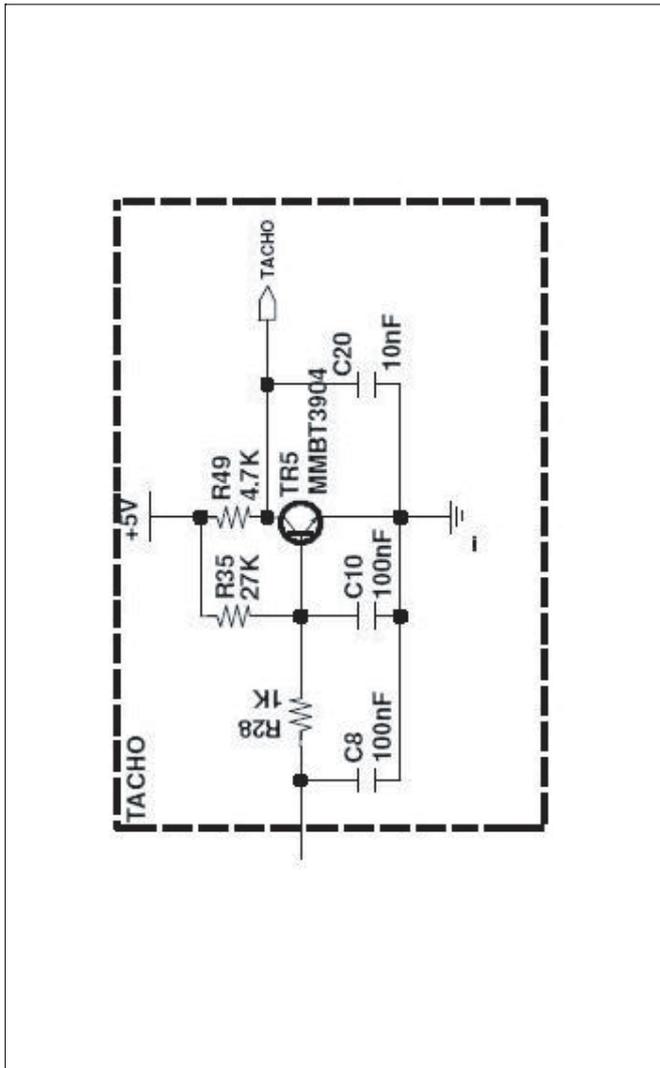
## 12-6.MOTOR TACHO INPUT SYSTEM

### ► Function

Detects the current RPM of the motor and controls the output.

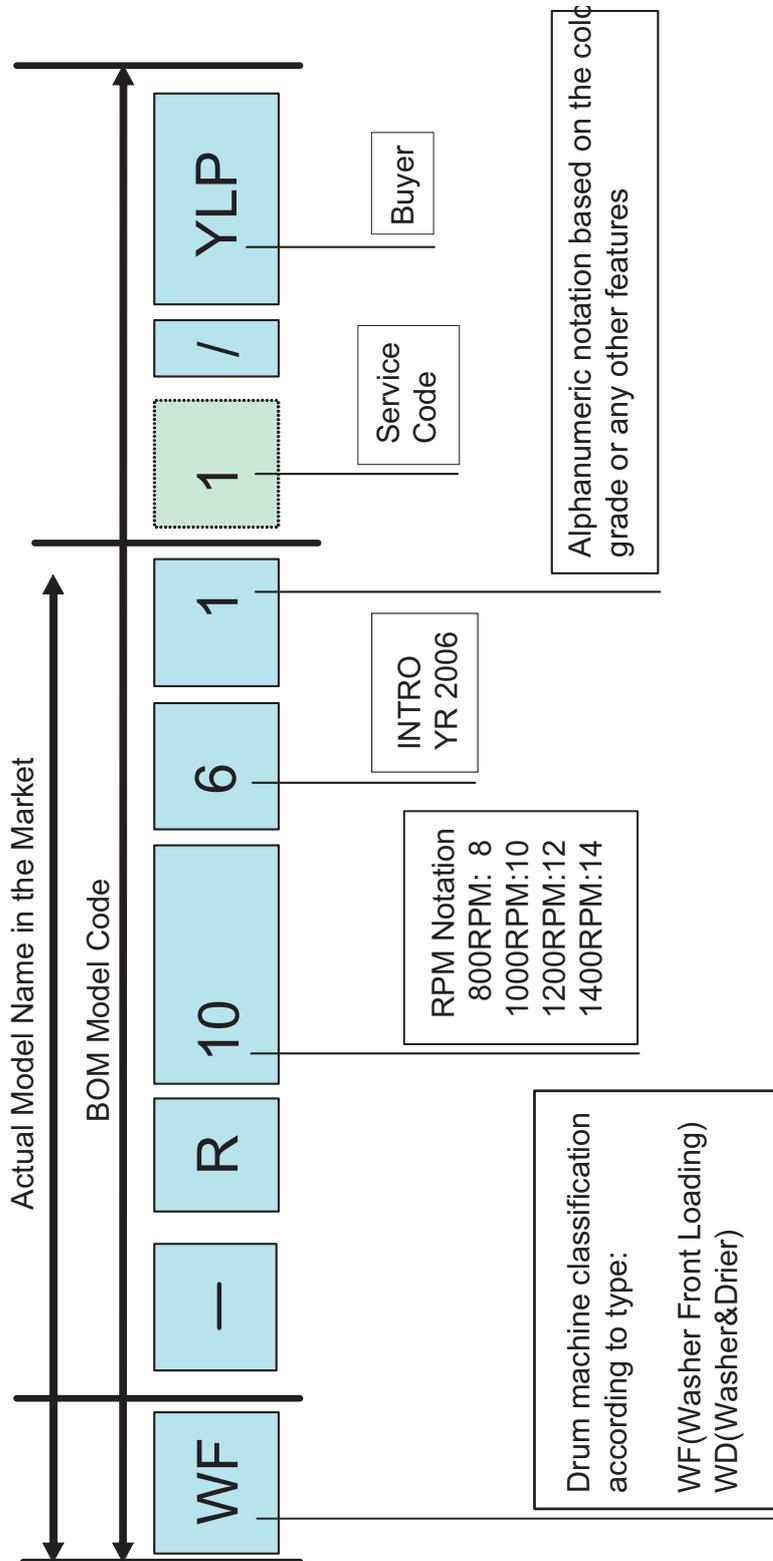
### ► Description

- The motor TACHO sensor is connected to pin 1 of the CN5.
- According to the current RPM of the motor, a square wave is applied to pin 1.
- The square wave that is input to TR5 BASE turns the motor on if high (5V), and turns it off if low (0V). And this operation will be inverted to TACHO NET for a clear wave with no noise.
- The signal is applied to MICOM pin 13. Then MICOM counts the frequency of the input signal and detects the current RPM of the motor.



# 13. REFERENCE INFORMATION

## 13-1. MODEL NAME



## 13-2. TERMINOLOGY

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- 1) ASSY-MAIN PCB (Imbalance Sensor)
  - To prevent the laundry from gathering on one side of the tube causing noise and vibration, the washing machine uses an imbalance detection device that evenly disentangles the laundry before the hydrating cycle starts.
- 2) DOOR-LOCK S/W
  - Prevents the door from being opened while a cycle is in progress. For safety purposes, it keeps the door locked even in pause mode or after the washing cycle unless the water level frequency is greater than 24.8Khz (anti-overflow level) or the inside-tube temperature is less than 65°C in the hydrating cycle, and 55°C in the washing cycle.
- 3) SENSOR-PRESSURE (Anti Over-Flow)
  - When the water supplied is more than 2/3 of the tube capacity due to a malfunction of the water supply valve, this device automatically starts water-draining and displays “OVER-FLOW ERROR(E3)” on the LED.
- 4) ASSY-THERMAL FUSE (Anti Over-Heat)
  - When the washing heater is overheated due to an error in the thermistor or any other malfunction, the assy-thermal fuse (built in the heater) is automatically activated to disconnect the power for your and the product’s safety.
- 5) ASSY-MAIN PCB (Sensitive Laundry Protection)
  - To avoid any damage to sensitive laundry, the tube temperature is detected and “ERROR(E8)” is displayed on the LED for Wool or Lingerie courses when the temperature is over 50°C.
- 6) THERMOSTAT (Anti Over-Heat)
  - When the heater (drier) overheats from an error in the thermistor or any other malfunction, the thermostat (installed on the drying duct) is automatically activated to disconnect the power for your or product’s safety
- 7) CHILD LOCK
  - Prevents children from playing with the washing machine.
- 8) PRE-WASH
  - The machine does a preliminary wash of about 10 minutes prior to the main wash. This is particularly effective for cleaning badly stained laundry.
- 9) WEIGHT SENSOR
  - The tube automatically rotates when no water is supplied to detect the laundry weight so that the proper wash time can be determined. (Standard, Boiling, Economy Boil and Dirt courses and Toweling and Drying cycles)

### 13-3. FABRIC CARE CHART

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	Resistant material		Can be ironed at 100°C max
	Delicate fabric		Do not iron
 	Item may be washed at 95°C		Can be dry cleaned using any solvent
 	Item may be washed at 60°C		Dry clean with perchloride, lighter fuel, pure alcohol or R113 only
 	Item may be washed at 40°C		Dry clean with aviation fuel, pure alcohol or R113 only
 	Item may be washed at 30°C		Do not dry clean
	Item may be hand washed		Dry flat
	Dry clean only		Can be hung to dry
	Can be bleached in cold water		Dry on clothes hanger
	Do not bleach		Tumble dry, normal heat
	Can be ironed at 200°C max		Tumble dry, reduced heat
	Can be ironed at 150°C max		Do not tumble dry

### 13-4. ELECTRICAL WARNINGS

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To reduce the risk of fire, electrical shock, and other injuries, keep these safety precautions in mind:

- Operate the appliance only from the type of power source indicated on the marking label.  
If you are not sure of the type of power supplied to your home, consult your appliance dealer or local power company.
- Use only a grounded or polarized outlet. For your safety, this appliance is equipped with a polarized alternating current line plug having one blade wider than the other.  
This plug will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still doesn't fit, contact your electrician to replace your outlet.
- Protect the power cord. Power supply cords should be routed so that they are unlikely to be walked on or pinched by items placed on or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.
- Do not overload the wall outlet or extension cords. Overloading can result in fire or electric shock.

## 13-5. Q & A

NO.	Type	Part	Situation	Solution method	Before consulting	cause	Management
1	DRUM WASHER (MODEL NAME : Q1*3*)	appearance part	Being opened & closed bad/Being attached & detached bad	AS recommended		In case of a cover not being opened or closed	Door is not opened during washing. For models applied with the boiling or drying the door will not open until the interior temperature decreases to a certain safe level. In other cases you are recommended our engineer's inspection.
2	DRUM WASHER (MODEL NAME : Q1*3*)	appearance part	Label(sticker) being detached	consulting	..for the specification or label of product lead the customer to attach directly or send the engineer to do so. For other advertisement or PR label it may not be attached.		Is it the label for advertisement? Is it the label for standards or attentions? If it is for advertisement it does not matter for the function or the use even though it is not attached since it is not related to the function and use. If it is for st
3	DRUM WASHER (MODEL NAME : Q1*3*)	appearance part	Accessories being not included	AS recommended	..Check whether the components are same as those in the manual. If not contact to SVC.		Sir we really apologize to you for the inconvenience that we made from our product which was bought by you on the basis of your trust in us. We will try our best to clear your inconvenience (by mail).
4	DRUM WASHER (MODEL NAME : Q1*3*)	appearance part	Color coming off/rust	AS recommended		It may be occurred when the machine is installed in the humid place which causes the rust or discoloring.	Being rust or being discolored during the use is normal and natural according to the times and its use.(except the case occurred at the initial purchase). The replacement of case will be charged and in order to prevent the corrosion change the location
5	DRUM WASHER (MODEL NAME : Q1*3*)	display part	Display part being not lit up/ not being cleared	AS recommended		It is a symptom occurred when it is installed in the humid place or the water is entered its inside.	Dry the front operation part a little with the drier and you are recommended our engineer's inspection if it does not work even after doing so.
6	DRUM WASHER (MODEL NAME : Q1*3*)	display part	Character being broken on display	AS recommended			In this case you are recommended our engineer's inspection.
7	DRUM WASHER (MODEL NAME : Q1*3*)	display part	Display not being cleared	AS recommended			In this case you are recommended our engineer's inspection.
8	DRUM WASHER (MODEL NAME : Q1*3*)	display part	Display malfunction	AS recommended			In this case you are recommended our engineer's inspection.
9	DRUM WASHER (MODEL NAME : Q1*3*)	door related	Door sensor not being detected	Others			In this case you are recommended our engineer's inspection.
10	DRUM WASHER (MODEL NAME : Q1*3*)	a noise	A noise being occurred intermittently during washing	General consulting		Please check whether a washer is installed and used with removing the safety device positioned at its rear.	You are recommended our engineer's inspection if the safety device is removed and there is no foreign material such as a coin or pin inside.

11	DRUM WASHER (MODEL NAME : Q1*3*)	a noise	A noise being occurred intermittently during dehydrating	General consulting	..Make a comment for the customer to prepare the memorandum since he can not be famaliar with the contents comple tely.	Did you remove the washer safety device? It may be occurred when the laundry is leaned to one direction or the machine is not aligned horizontally or the foreign material is entered.	Please check whether the machine-installed place is not leaned to one direction and then check whetehr there is no foreign material inside such as the coin or pin. If the noise occurs without any problem in the machine a check is requir
12	DRUM WASHER (MODEL NAME : Q1*3*)	a noise	A noise to touch other parts	General consulting	..Make a comment for the customer to prepare the memorandum since he can not be famaliar with the contents comple tely.	It may be occurred when the laundry is leaned to one direction or the machine is not aligned horizontally or the foreign material is entered.	Check whether the machine-installed place is not leaned to one direction and then align it horizontally and then check whetehr there is no foreign material inside such as the coin or pin. If the noise occurs without any problem in the machine. Inspectio
13	DRUM WASHER (MODEL NAME : Q1*3*)	a noise	A noise of Motor	AS rere commened	Noise during water darainage -roaring sound		You are rerecommended our engineer's inspection because there may be a problem on the components.
14	DRUM WASHER (MODEL NAME : Q1*3*)	a noise	A noise being occurred during water supply	General consulting		The foreign material may be inserted inside the water supply hose or the pressure of water may be too high or too weak.	In case that there is a noise during water supply open or close the tap little by little to adjust the water pressure to the proper level. If a noise occurs continuously disconnect the water supply hose connected to the machine and check whether there
15	DRUM WASHER (MODEL NAME : Q1*3*)	a noise	Water leakage being oc curred at water supply connection	General consulting		Lead to re assembe when water supply hose is departed.	Disconnect the water supply hose and reas-semble.
16	DRUM WASHER (MODEL NAME : Q1*3*)	water le akage related	Water being overflo wed from detergent box(front loading wa shing machine)	General consulting		It may be used with so much de tergent or left alone for a long time without use.	If the detergent input is impossible insert a proper amount of detergent inot the detergent box and if it is clogged take out the box forward and clean it.
17	DRUM WASHER (MODEL NAME : Q1*3*)	water le akage related	Water bein leaked to floor	General consulting		It is a symtom occurred when the hose of bot tom not outside is departed or torn off.	Check the machine for the water drainage route under the machine. If the water drains through the other side not the drainage side check by the engineers.
18	DRUM WASHER (MODEL NAME : Q1*3*)	water le akage related	water being leaked at water supply connec tion part	General consulting		It may be occurred when it is pushed out due to the water pres sure or it has bad connec- tion.	Disconnect the coupler and reassemble it. It had better to assemble by yourself because the engineer's visit for service will be additionally charged in case of difficut installation by custo-mer. In case of the damage or missing of coupler you can buy i
19	DRUM WASHER (MODEL NAME : Q1*3*)	water leakage related	Water leakage being occurred during water supply	General consulting		The leakage during water supply can occur possibly due to the bad connection of tap and coupler and water supply hose.	First re-assemble the coupler and then check by the engineer if it continues.

20	DRUM WASHER (MODEL NAME : Q1*3*)	water leakage related	Natural drain(continually)/water not filling tub	General consulting		It can be appeared at the drum washing machine of which the drain hose is located at the bottom.	For the machine having the drain hose at the below of that raise the drain hose up and fix it to the fixer at 2/3 point of the machine. If the hose is used at the floor all water supplied will drain fully.
21	DRUM WASHER (MODEL NAME : Q1*3*)	smell/ smoke	Burning smell	General consulting		For the initial use of product It may appear during the operation with coupling each other but it carefully watched by the customers who are using more than for 3 years.	Is that a newly bought one?  A smell is disappeared after 4~5 days passed in case of newly bought one but it depends upon the frequency of use. Be sure to use it without worry. If is not disappeared contact a engineer
22	DRUM WASHER (MODEL NAME : Q1*3*)	smell/ smoke	Burning/smoke	General consulting	Pull out the plug in case of smoke or fire.	It can be shown in case that the interior components of the products do not work normally.	In this case you are recommended our engineer's inspection.
23	DRUM WASHER (MODEL NAME : Q1*3*)	power source related	Power not supplied	AS recommended		It can be shown in case that the power cord is not inserted or electricity is blacked out or the interior components of the products do not work properly.	Take out the power cord and put it in again and check whether the power for the other products is on. If it is not even after that you are recommended our engineer's inspection.
24	DRUM WASHER (MODEL NAME : Q1*3*)	power source related	Current leakage breaker being dropped	General consulting		It may be occurred when the humidity is full inside the machine.	In this case you are recommended our engineer's inspection.
25	DRUM WASHER (MODEL NAME : Q1*3*)	power source related	Automatic stop during operation	AS recommended		It may be occurred when there are too much laundry.	Reduce the contents to be washed. If it continues you are recommended our engineer's inspection.
26	DRUM WASHER (MODEL NAME : Q1*3*)	power source related	Being power off frequently	AS recommended		It may be occurred in case of the bad contact of button.	In this case you are recommended our engineer's inspection.
27	DRUM WASHER (MODEL NAME : Q1*3*)	operation related	Button being not operated	Consulting		It may be occurred when the accumulation of foreign material or moisture ingress into the button.	In this case you are recommended our engineer's inspection.
28	DRUM WASHER (MODEL NAME : Q1*3*)	operation related	Being not rotating during washing	AS recommended		It may be occurred when the water supply not completed or the cover not closed completely or the accessories of products have a abnormality.	First check whether the tap is open and the cover closed and then request an engineer's inspection.

29	DRUM WASHER (MODEL NAME : Q1*3*)	4E :front loading washing machine error	Water level sensor inferiority	AS rerecommended		This may be happened when there is any foreign material inside the water supply and drain valve or the interior components of the prodcuts do not operate normally. Water level sensor or mother rotation.	Disconnect the water supply hose and check whether there is a foreign material inserted in it. And then request an engineer's inspection.
30	DRUM WASHER (MODEL NAME : Q1*3*)	5E :front loading washing machine error	Water being not drained	AS rerecommended		It may be occurred when the drain hose is go over the threshold or water is not drained. It may eb occurred when the The filter of pump-drain moder is filled with dregs,	Check the installation of drain hose and then if there is no trouble request an engineer's inspection. Clean the filter of pump-drain motor. Guided by instruction-manual.
31	DRUM WASHER (MODEL NAME : Q1*3*)	OE :front loading washing machine error	3E OVER-FLOW	General consulting		It may be a case that the supply water level is not detected.	After Draining the water power off and on and operate again. If it dose not work after so doing request an engineer's inspection.
32	DRUM WASHER (MODEL NAME : Q1*3*)	UE :front loading washing machine error	4E UNBALANCE ERR	General consulting		It may be happened when the floor of the installed palce is not flat or the clothes are entangled.	Level the machine or arrange the entangled clothes. If it does not worked even after so doing request an engineer's inspection.
33	DRUM WASHER (MODEL NAME : Q1*3*)	HE1 : front loading washing machine error	E5 WATER HEATER ERR	General consulting		It may happen when the boiling temperatuer rised rapidly. (It is also because too much detergent are used.)	Use the proper amount of detergent and power off the machine till the tempaure is cooled down. And if it does not work even after so doing request an engineer's inspection.
34	DRUM WASHER (MODEL NAME : Q1*3*)	HE : front loading washing machine error	E6 WATER HEATER ERR	AS rerecommended		It may appear when it dose not reach to the set temperature within a certain time.	In this case you are recommended our engineer's inspection.
35	DRUM WASHER (MODEL NAME : Q1*3*)	1E :front loading washing machine error	E7 Water level sensor ERR	AS rerecommended		It may happen when there is a trouble in air hose or water level sensor.	In this case you are recommended our engineer's inspection.
36	DRUM WASHER (MODEL NAME : Q1*3*)	cE : front loading washing machine error	E8 Abnormal water temperature ERR	AS rerecommended		Check whether the hose for hot and cold water is connected to the water supply hole.	Check whether the cold water is supplied through the cold water supply hole and if it doesn't work after so doing request an engineer's inspection.
37	DRUM WASHER (MODEL NAME : Q1*3*)	8E : front loading washing machine error	E9 Water leakage ERR	AS rerecommended		Check whether there is foreign material inserted in the drain filter.	In this case you are recommended our engineer's inspection.
38	DRUM WASHER (MODEL NAME : Q1*3*)	1E :front loading washing machine error	E9 Water leakage ERR	AS rerecommended		Check whether there is foreign material inserted in the drain filter.	In this case you are recommended our engineer's inspection.

39	DRUM WASHER (MODEL NAME : Q1*3*)	11E : front loading washing machine error	E9 Water leakage ERR	AS rerecommended		Check whether there is foreign material inserted in the drain filter.	In this case you are recommended our engineer's inspection.
40	DRUM WASHER (MODEL NAME : Q1*3*)	door : front loading washing machine error	Ed:Door being not opened	AS rerecommended		It may appear when the the door is opened a certain minutes after the completion of washing or the electricity is interrupted in running.  Check of Bad contact of 1st door opening sensor---- *check of the bending of 2nd door switch*Do not open the door	There is a cover detachable at the front bottom. Pull out the cover to find the handle to open at the right side. Pull out the handle to open the door.
41	DRUM WASHER (MODEL NAME : Q1*3*)	front loading washing machine error	E6:Overheating error	AS rerecommended		It may appear when the temperature rises rapidly.	In this case you are recommended our engineer's inspection.
42	DRUM WASHER (MODEL NAME : Q1*3*)	water supply related	Cold water being not supplied	General consulting			Check first whether the water supply is cut and also check whether the foreign material is inserted. If the foreign material is inserted turn the connection hose of machine to the left to disconnect and to find the strainer to trap the foreign material.
43	DRUM WASHER (MODEL NAME : Q1*3*)	water supply related	Water being supplied little	General consulting		It may appear when the tap is not opened properly or there is a foreign material inside.	Is it checked whether the tap is fully open or there is a foreign material inserted? First check whether the tap is fully open. And there is no fault turn the hose of the machine to the left to take out strainer in the hole of water entrance. Clean i
44	DRUM WASHER (MODEL NAME : Q1*3*)	water supply related	Detergent being remained	General consulting		It may appear when the long-term used detergent is not well soluted or when the water temperature is low during winter.	Solve the detergent wth the hot water and put it inot the washing box. If it is not solved even with the normal detergent request an engineer's inspection.
45	DRUM WASHER (MODEL NAME : Q1*3*)	water supply related	Water being stopped during the coming in	General consulting		It may appear when the water is cut or the water supply hole is clogged.	Is it checked whether the water is cut or there is a foreign material inserted in the water supply hole? First check whether the water is cut and if there is a blackout push the power button on. Otherwise turn the machine hose to the left to take out t
46	DRUM WASHER (MODEL NAME : Q1*3*)	water supply related	Clothes being damaged	General consulting			In this case you are recommended our engineer's inspection.
47	DRUM WASHER (MODEL NAME : Q1*3*)	water supply related	One direction rotation				In this case you are recommended our engineer's inspection.
48	DRUM WASHER (MODEL NAME : Q1*3*)	water supply related	Rotation being not worked after it sounds with buzz				In this case you are recommended our engineer's inspection.
49	DRUM WASHER (MODEL NAME : Q1*3*)	water supply related	Water being not supplied in winter			It may appear when the tap and the water supply hose are frozen if it is used at the veranda in the winter.	Make the water supply hole warm and defreeze it with wet towel.

50	DRUM WASHER (MODEL NAME : Q1*3*)	rinsing related	Rinse being not put in tub	General consulting		It may appear when the rinse agent remains to clog .	Did the rinse agent drain immediately or part to put the rinse is clogged after putting the rinse agent? The rinse agent does not drain only when putting it up to the reamer shaped cap which is in the box of rinse agent. If clogged take out the cap and
51	DRUM WASHER (MODEL NAME : Q1*3*)	rinsing related	Bubble being remained	General consulting		It may appear when there is too much or too little laundry.	If there is too much laundry or vinyl clothes the detergent is not solved. Reduce the laundry or take out the vinyl clothes separately.
52	DRUM WASHER (MODEL NAME : Q1*3*)	water drain related	Water being not drained	General consulting			In this case you are recommended our engineer's inspection.
53	DRUM WASHER (MODEL NAME : Q1*3*)	dehydrating related	Dehydrating time being increased again	General consulting	..Make a comment for the customer to prepare the memorandum since he can not be familiar with the contents completely.	The vibration and noise occur when the horizon is broken or the laundry are leaned to one direction. So It may appear when the safety device is operating to prevent it.	If there is too little laundry less than 1KG or the clothes in the washing tub are severely entangled it appears.
54	DRUM WASHER (MODEL NAME : Q1*3*)	dehydrating related	Washer being worked for four hours without stopping	Specific consulting		If the washing machine consumes hours more than necessary check whether the water supply is too small. And note that that the boiling and the drying course takes much time.	Check whether the water supply time is too much delayed due to the low pressure of water or boiling or drying is selected. In other cases request an engineer's inspection.
55	DRUM WASHER (MODEL NAME : Q1*3*)	dehydrating related	Not dehydrating with the motor being purring after water is drained	General consulting		The power cord for motor may be cut or the gear shaft hardened.	In this case you are recommended our engineer's inspection.
56	DRUM WASHER (MODEL NAME : Q1*3*)	dehydrating related	Being stopped with thuds during dehydration	AS rerecommended	..Make a comment for the customer to prepare the memorandum since he can not be familiar with the contents completely.	It may appear when the horizon is broken or there are too much clothes to wash.	check the level of a washing machine.
57	DRUM WASHER (MODEL NAME : Q1*3*)	dehydrating related	Not being squeezed well	General consulting		It may appear when there are clothes like vinyl.	Check whether the vinyl clothes are attached on to the washing tub so as to prevent the immediate the outgoing of the moisture to the outside. Otherwise request an engineer's inspection.
58	DRUM WASHER (MODEL NAME : Q1*3*)	dehydrating related	Water being in at purchasing	AS rerecommended			There may be remaining water since the products is delivered through the final products test. It is normal and you can use it without fear.
59	DRUM WASHER (MODEL NAME : Q1*3*)	dehydrating related	Dehydration being not worked at all	General consulting		It may appear when the interior components do not work properly.	In this case you are recommended our engineer's inspection.
60	DRUM WASHER (MODEL NAME : Q1*3*)	others	Action for water being freeze in winter	AS rerecommended		It may appear when the machine is used at the outside or the veranda.	pour the warm water on to the tap to take out the water supply hose and put the hose in to the water of approximately 50 degree. And then pour the water in to the washing box to check whether the drain is well done.
61	DRUM WASHER (MODEL NAME : Q1*3*)	others	being clogged/foreign materials	General consulting	...the drainage hose clogged or foreign material inside		After loosening the water supply hose and check the inlet of water supply whether there is foreign material inserted such a soil dust.

62	DRUM WASHER (MODEL NAME : Q1*3*)	installation / connection	Consulting for installation of front loading washing machine	General consulting			The drum washing machine is leveled after removing the safety device at the rear of drum. And for a removing the safety device refer to accessories and user's manual.
63	DRUM WASHER (MODEL NAME : Q1*3*)	installation / connection	Level check	Specific consulting			Level it by use of a leveller(with a coin weight) at the front.
64	DRUM WASHER (MODEL NAME : Q1*3*)	installation / connection	Removal/house moving reinstallation	Specific consulting			It is possible to remove and install in the house but when moving to the other house and installing it assemble the safety device at the back while moving and remove it after moving. If the drum is shaken during the moving it causes a serious damage.
65	DRUM WASHER (MODEL NAME : Q1*3*)	washing related	Slow speed of washing rotation	General consulting		It may appear when there is too much laundry.	Check whether the laundry is input over the proper amount. Otherwise request an engineer's inspection.
66	DRUM WASHER (MODEL NAME : Q1*3*)	washing related	Clothes being damaged	General consulting		Check whether there is foreign material inside (coin nail and other sharp material) and so it may appear due to the zipper or button of jeans.	Check whether there is foreign material in the washing tub. In case of dehydrating the weak material clothes it shall be inserted in the net during dehydrating. Any other cleaning agent (decoloration agent) shall not be used except the detergent and rins



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