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WASHING MACHINE SERVICE MANUAL

CAUTION

READ THIS MANUAL CAREFULLY TO DIAGNOSE PROBLEMS CORRECTLY BEFORE OFFERING SERVICE.

BEFORE SERVICING THE WASHING MACHINE, UNPLUG THE POWER CORD TO AVOID THE RISK OF AN ELECTRIC SHOCK.

WHEN SERVICING INTERNAL PARTS ,
USE ONLY SERVICE PARTS SUPPLIED FROM LG.
AFTER SERVICING THE ELECTRIC WIRE, INSURE THAT INSULATION
TAPE IS APPLIED TO PREVENT AN ELECTRICAL SHORT.

MODEL:

F*V7*CP(0~9)

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1. SPECIFICATION

ITEM		Refer to 1 page	
POWER SUPPLY		220 V - 240 V ~,50Hz/60Hz	
PRODUCT WEIGHT		73kg	
	WASHING	155 W	
=======================================	SPIN	490 W	
ELECTRICITY	DRAIN MOTOR	20 W	
CONSUMPTION	WASH HEATER	2200 W	
	DRY HEATER	1350 W	
DEVOLUTION.	WASH	46 rpm	
REVOLUTION	CDIN	F4V****** : No Spin / 400 / 800 / 1000 / 1200 / 1400	
SPEED	SPIN -	F2V****** : No Spin / 400 / 800 / 1000 / 1100 / 1200	
OPERATION WA	TER PRESSURE	0.1 ~ 1.0 MPa (1.0 kgf / cm² ~ 10.0 kgf / cm²)	
CONTRO	OL TYPE	Electronic	
WASH & DR	Y CAPACITY	Refer to the Rating Label	
DIMENSION		600mm x 560mm x 850mm	
WASH PROGRAM		Cotton , Cotton+, Turbo Wash 39, Mixed Fabric, Easy Care, Steam Refresh, Allergy Care, Delicate, Hand/Wool, Dry Only, Speed 14, Wash+Dry, Tub Clean, Download Cycle	
RINSE		Rinse ⁺	
DOOR SWITCH TYPE		PTC+Solenoid	
WATER LEVEL		by Pressure Sensor S/W	
RESER	VATION	From 3 hours to 19 hours	
SENSING LAU	INDRY AMOUNT	Adapted	
FUZZY	LOGIC	Adapted	
DISPLAY RE	MAINING TIME	Adapted	
ERROR DIAGNOSIS		13 items	
POWER AUTO OFF		Adapted	
CHILD LOCK		Adapted	
AUTO RESTART		Adapted	
TIME SAVE		Adapted	
SMART		Wi-fi (Smart ThinQ 3.0)	
A MARDAUNIC			

AWARNING

• To reduce the risk of personal injury, adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

Failure to follow all of the safety warnings in this manual could result in property damage, personal injury or death.

2. FEATURES & TECHNICAL EXPLANATION

2-1. Product Features



■ Inverter Direct Drive system

The advanced Brushless DC motor directly drives the drum without belt and pulley.





Washer is able to perform various drum actions or a combination of different actions depending on the wash program selected. Combined with a controlled spin speed and the ability of the drum to rotate both left and right, the wash performance of the machine is greatly improved, giving you perfect results every time.



■ Turbo Wash

Wash the laundries in 1 hour with energy and water saving.



■ Smart ThinQ (Wi-Fi feature)

This feature lets you use various functions of the product, e.g., remote control, smart alert, mode download, and smart self-diagnosis via the smartphone app.



More economical with Intelligent Wash system

Intelligent Wash System detects the size of load and water temperature, and then determines the optimum water level and washing time to minimize energy and water consumption.



Child Lock

The Child Lock prevents children from pressing any button to change the settings during operation.



■ Low noise speed control system

By sensing the amount of load and balance, it evenly distributes load to minimize the spinning noise level.



Auto Restart

Auto Restart allows the program to restart all by itself in case of power failure. It does from the stage where it stopped.

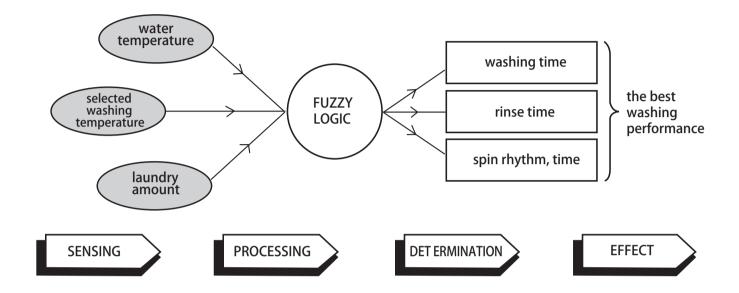
■ SmartDiagnosisTM



Should you experience any technical difficulty with your washing machine, it has the capability of transmitting data by phone to the Customer Information Center. The call center agent records the data transmitted from your machine and uses it to analyze the issue, providing a fast and effective diagnosis.

2-2. DETERMINE WASHING TIME BY FUZZY LOGIC

To get the best washing performance optimal time is determined by sensing the water temperature, selected washing temperature and laundry amount.



2-3. WATER LEVEL CONTROL

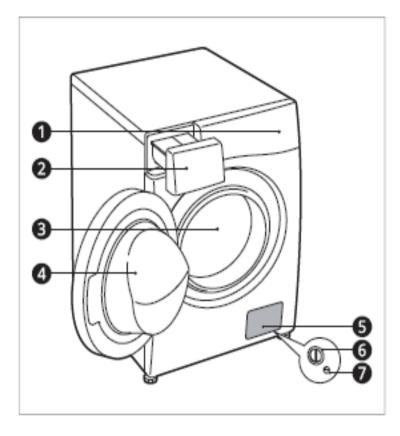
- This model adopts a pressure sensor which can sense the water level in the tub.
- Water supply is stopped when the water level reach the preset level, then washing program proceeds.
- Spinning does not proceed until the water in the tub reduces to a certain level.

2-4. THE DOOR CAN NOT BE OPENED

- While program is operating.
- While Door Lock light is on.

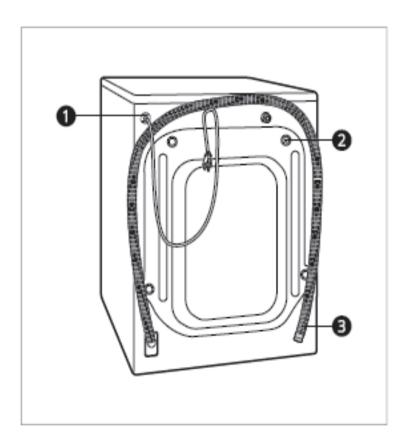
3. PARTS IDENTIFCATION

Front View



- Control panel
- 2 Detergent dispenser drawer
- Orum
- 4 Door
- 6 Cover cap (Location may vary depending on products)
- 6 Drain pump filter
- Drain plug
- 8 Adjustable feet

Rear View

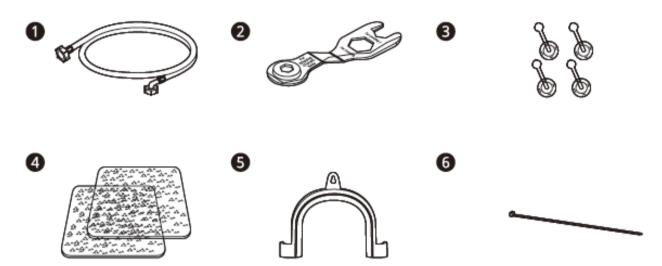


- Power plug
- 2 Transit bolts
- 3 Drain hose

3. PARTS IDENTIFCATION

Accessories

* This feature may vary depending on the model purchased.



- Cold water inlet hose*
- 2 Spanner
- 3 Caps for covering transit bolt holes*
- 4 Anti-slip sheets*
- S Elbow bracket for securing drain hose*
- 6 Tie strap*

Specifications

Model	F*V*******
Wash Capacity	10.5 kg (Wash) / 7 kg(Dry)
Power Supply	220 - 240 V~, 50 Hz
Dimension (Width x Depth x Height)	600 mm X 560 mm X 850 mm
Product Weight	73 kg
Permissible Water Pressure	100 - 1000 kPa (1.0 - 10.0 kgf / cm²)

• No further backflow protection required for connection to the water inlet.

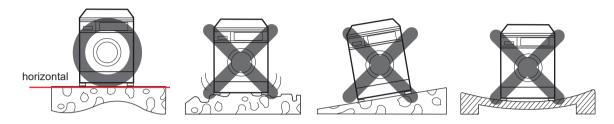
4. INSTALLATION

■ INSTALLATION

The appliance should be installed as follows.

1 Check the conditions of installation area.

1. Check level ground.



On raised foundations or upper level homes, the **vibrations** can be caused by the type of flooring. It may be **necessary to move** the **machine** to a different area in the home or have the floor reinforced to properly support the operation of the unit.

2. Check for humidity or any foreign objects under the feet.

Clean the floor, there should be no foreign objects under the feet.

If the unit has foreign objects underneath the feet, this will prevent the unit from being leveled properly and will cause **vibrations** and **slipping**.

Remove any foreign objects, if any from underneath the machine and level unit properly. See below for examples of foreign objects.

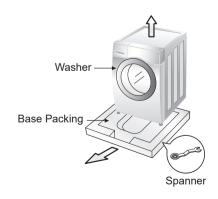








2 Open the box and check appliance condition.



This leveling (or spanner) wrench must be used to remove the shipping bolts and level the unit. This should be kept for future use.

3 Use spanner to remove transit bolts.





X 4 EA

- Without removal of transit boltsSpin noise and shaking.
- 4 Confirm the distance between the appliance and the wall.

More than 2cm

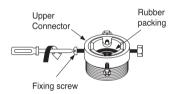


If the distance is less than 2cm, the water supply hose will kink or fold.

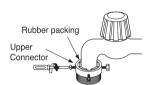


5 The tap connection and hose connection must be parallel.

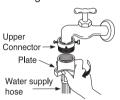
- 1. Normal Tap without thread & screw type inlet hose.
 - **1.** Unscrew the fixing screw to attach the tap.



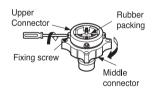
Push the connector up till the rubber packing is in tight contact with the tap. Then tighten the 4 screws.



3. Push the water supply hose vertically upwards so that the rubber packing within in the hose can adhere completely to the tap and then tighten it by screwing it to the right.



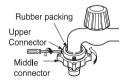
- 2. Normal Tap without thread & one touch type inlet hose (Single inlet models)
 - Untighten the upper connector screw.



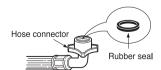
i In case the diameter of the tap is large remove the guide plate.



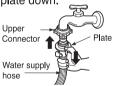
2. Push the upper connector up till the rubber packing is in tight contact with the tap. Then tighten the 4 screws.



- i Turn the middle connector not to have water leaked.
- ï Make sure that the rubber seal is inside the hose connector.



3. Connect the water supply hose to the middle connector, pushing the plate down.



- ï To separate the water supply hose from the middle connector shut off the tap.
- Then pull the inlet hose down, pushing the plate down.



ï Make sure that there are no kinks in the hose and that it is not crushed.

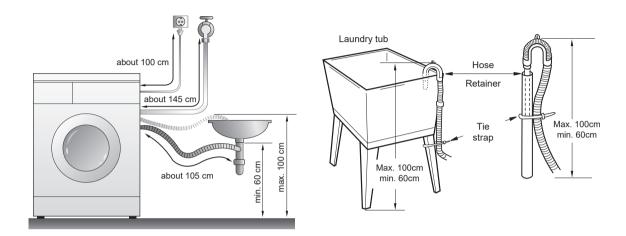
6 Connect Drain Hose.

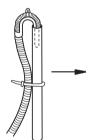
If the drain hose is not installed properly, the unit will not drain properly.

This allows water to back flow into the unit which can cause odors.

Refer to Owner Manual for proper drain hose installation.

The odor could also be coming from the home's drain to which the drain hose is attached.





In this type of drain hose installation, the odor could be coming from the standpipe.

This odor can come up the drain hose and into the unit.

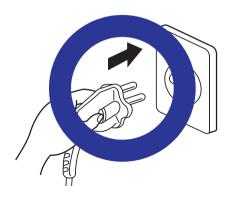
Pour a cup or two of bleach or vinegar down the home drain and let it sit for 24 hours before running another cycle.

This will help eliminate odor from the home drain.

If a cycle is started too soon after doing this, it will not help the issue.

7 Connect power plug.

Connect the power plug to the wall outlet.



Avoid connecting several electric devices, it may be the cause of a fire.

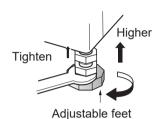


8 Check the horizontality with a level (Gage).

Step 1

If washing machine legs are loose or not Screwed in, then **tighten** with the spanner wrench. Using the level, level the washing machine from front to back and side to side.





Step 2

Use the spanner wrench to adjust Legs until level and try the Diagonal test.

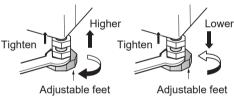
Diagonal test

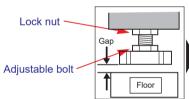
$\ensuremath{\mathsf{\#}}$ How to perform a diagonal test:

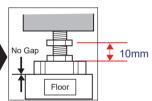


Place your right hand on the back, right corner and your left hand on the front, left corner of the unit, then attempt to rock the unit from corner to corner. Then, move your right hand to the front, right side and your left hand to the back, left corner and attempt to rock the unit from corner to corner.

If the unit is level, it will not rock. However, if the unit is not level, it will rock. If the unit rocks, it will be necessary to adjust the leveling feet of the unit. Adjust the foot under the hand that is on the front of the machine.

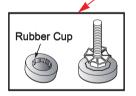






Lower the foot until there is no gap between floor and foot.

And only use adjustment rubber when difference at the leg adjustment is more than 10mm.











4620ER4002B (Gray) for Wooden floors

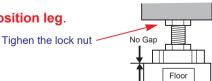
Step 3

Perform a Rinse and Spin with some clothing in the machine.

To do this, put 2~3kg of clothing in the unit, turn on the unit, Select the Rinse+Spin and then start. When the unit reaches the spin cycle, watch for vibrations. If the unit is vibrating, make small adjustments to the leg until they subside. (Repeat step 2)

Step 4

Tighten the lock nut against the base of the machine to lock the position leg.



9 Test operation



- · Connect the power plug to the outlet.
- · Connect the inlet hose.

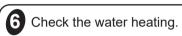
2 Press the power button.



Press the START/PAUSE button.



· In case of Coloreds program.





 Touch the Temp and Medic Rinse button simultaneously and the present temperature will be displayed. Page 20 **5** Check automatic reverse turn.



 Check if the drum rotates clockwise and counterclockwise. 4 Check the water supply.



· Check if water is supplied through the detergent dispenser.



7 Check the drain and spin functions.

- · Turn power off and then power on.
- · Select the spin rpm
- · Press the START PAUSE button.
- · Check the spin and drain functions.

8 Turn power off and open the door.



- Turn power off and then power on.
- Listen for a click to determine if the door is unlocking.

Water removal.

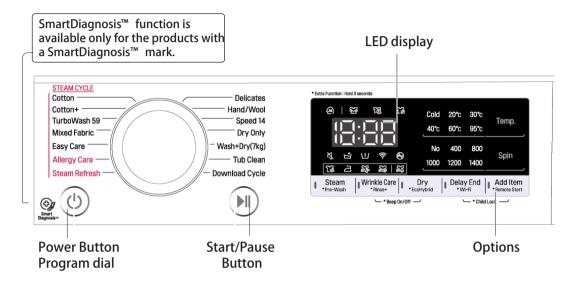


 If SVC is needed during check, remove the remaining water by pulling out the hose cap.

5. OPERATION

How to use washer

■ Control panel



Power

Press the Power button to turn power on and off.

To cancel the Time Delay function, the power button should pressed.

Start/Pause

This Start/Pause button is used to start wash cycle or pause the wash cycle.

If temporary stop of wash cycle is needed, touch the Start/Pause button.

When in Pause, the power is turned off automatically after 4 minutes.

Program Dial

Programs are available according to the laundry type.

Lamp will light up to indicate selected program.

LED display

The display shows the settings, estimated time remaining, options, and status messages for your washer.
The display will remain on through the cycle.

Options

This allows you to select an additional cycle and will light when selected.

Use thise buttons to select the desired cycle options for the selected cycle.

■ Options

- Steam: This option is featured with the enhanced washing performance. This option consumes low energy.
- Rinse + $(\stackrel{+}{\smile})$: Add rinse once.
- Dealy End:

You can set a time delay so that the washing machine will start automatically and finish after a specifed time interval.

• NOTE

- The delay time is the time to the end of the programme, not the start. The actual running time may vary due to water temperature, wash load and other factors.
- To cancel the function, the power button should be pressed.
 Avoid using liquid detergent for this option.
- 1. Touch the Power button.
- 2. Select a washing programme.
- 3. Touch the Time Delay button and set time required.
- 4. Touch the Start/Pause button.

Temp.

By touching the Temp. button the water temperature can be selected.

- Cold
- 20° C, 30° C, 40° C, 60° C, 95° C

Water temperature can be selected according to the program.

Spin([@)

Spin Speed level can be selected by touching 'Spin' button repeatedly.

Spin Only

- 1. Touch the Power button.
- 2. Touch the Spin button to select RPM.
- 3. Touch the Start/Pause.

• NOTE -

When you select , it will still rotate for a short time to drain quickly.

Pre Wash

If the laundry is heavily soiled, "Pre Wash" course is effective.

- 1. Touch the Power button.
- 2. Select a cycle.
- 3. Touch the Pre Wash button.
- 4. Touch the Start/Pause button.

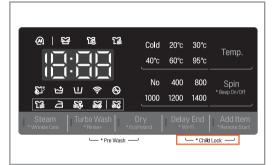
Wrinkle Care (55)

This washing programme reduces wrinkles by steaming after spin.

- 1. Press the Power button.
- 2. Select a washing programme.
- 3. Press the Wrinkle Care button for 3 seconds.
- 4. Press the Start/Pause button.

■ Child Lock

Select this function to lock the buttons on the control assembly to prevent tampering. "Child Lock" can be set only during the washing cycle.



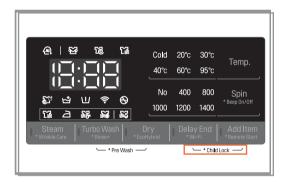
Locking the control panel

- 1. Touch and hold the Child Lock button for 3 seconds.
- 2. A beeper will sound, and ' [']' will appear on the LED display.

 When the child lock is set, all buttons are locked except the Power button.

• NOTE

Turning off the power will not reset the child lock function. You must deactivate child lock before you can access any other functions.



Unlocking the control panel

- 1. Touch and hold the Child Lock button for 3 seconds.
- 2. A beeper will sound and the remaining time for the current programme will reappear on the LED display.

■ Beep On / Off

The Beep on/off function can be set only during the washing cycle.



- 1. Touch the Power button.
- 2. Touch the Start/Pause button.
- 3. Touch and hold the Spin button three seconds to set Beep on/off function.

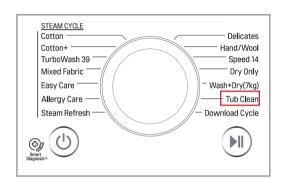
Once the Beep on/off function is set, the setting is memorized even after the power is turned off.

- O NOTE -

If you want to turn the Beeper off, simply repeat this process.

■ Tub Clean

Tub Clean is a special cycle to clean the inside of the washing machine. A higher water level is used in this cycle at higher spin speed. Perform this cycle regularly.



- 1. Remove any clothing or items from the washer and close the door.
- 2. Open the dispenser drawer and add Anti limescale(e.g. Calgon) to the main wash compartment.
- 3. Close the dispenser drawer slowly.
- 4. Power On and select the Tub Clean .Then ½ ε½ will be displayed on the display.
- 5. Touch the Start/Pause button to start.
- 6. After the cycle is complete, leave the door open to allow the washer door opening, flexible gasket and door glass to dry.

NOTE -

Do not add any detergent to the detergent compartments. Excessive suds may generate and leak from the washer.

- CAUTION -

If there is a child, be careful not to leave the door open for too long.

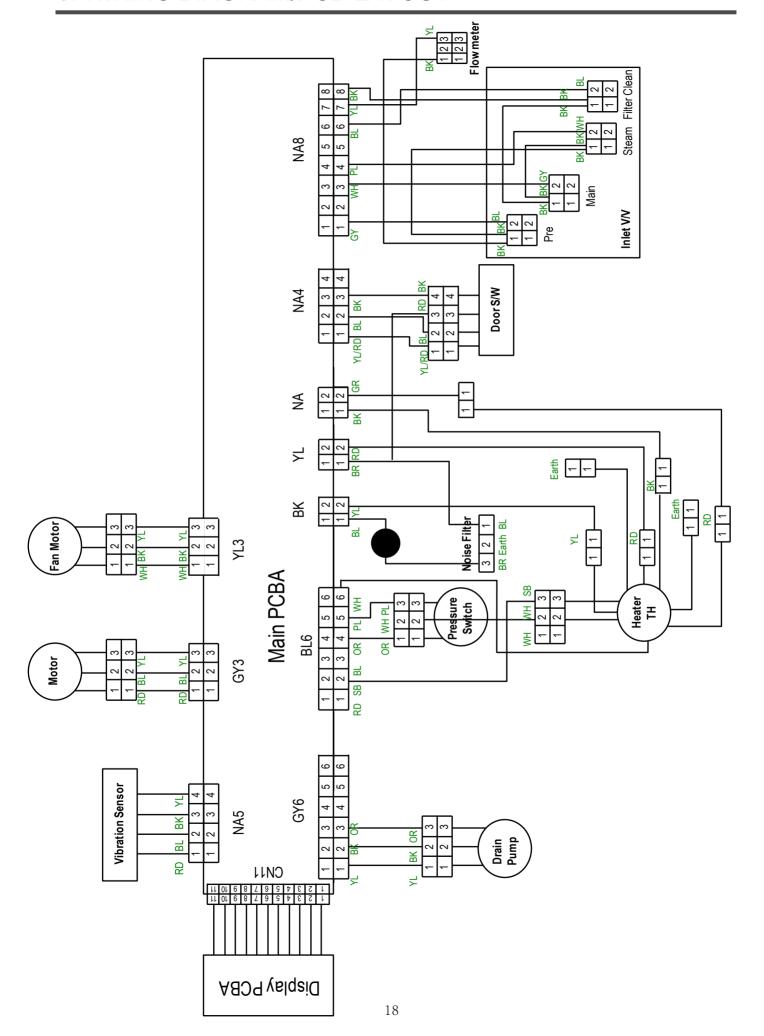
■ Door Lock & Detecting



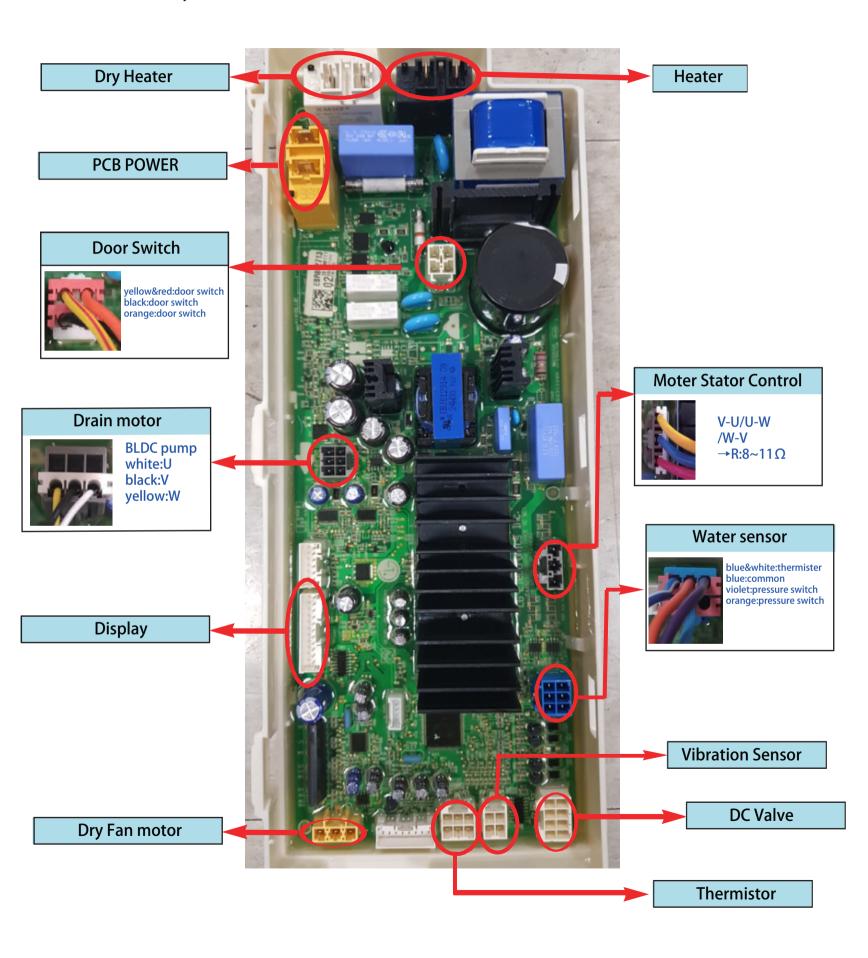
- (A) "Door Lock" For safety reasons, the door will lock while machine is in use and the
- "Door Lock" icon will light up. You can safely open the door after the "Door Lock" icon turns off.
- ® While "Detecting" is shown on the display the washing machine rotates slowly and detects how much laundry is loaded in the drum.

It will take a short time.

6. WIRING DIAGRAM/PCB LAYOUT



■ PCB Layout (Main)



7. TROUBLESHOOTING

7-1. CHECK BEFORE SERVICE

- ① Before servicing ask the customer what the trouble is.
- ② Check the adjustments. (Power supply :220-240V~, Removal of transit bolts etc..)
- 3 Check the troubles referring to the troubleshooting.
- 4 Decide service steps referring to disassembly instructions.
- **5** Then, service and repair.
- 6 After servicing, operate the appliance to see whether it works OK or NOT.

7-2. LOAD TEST MODE

- ① Turn on, and touch 'Wrinkle Care' and 'Delay End' at the same time in 1 second.
- ② The washer must be empty and the controls must be in the off state.
- ③ Press Power with above two buttons pressed and then buzzer will sound.
- 4 Press the Start/Pause button repeatedly to cyclethrough the test modes

Numbers	Check Point	Display Status	Remark
0	Turns on all light and locks the door.	PGM Version Information	
1	Tumble clockwise	rpm(42~50)	
2	Low speed spin	rpm (60)	
3	High speed spin	rpm (130~140)	
4	Inlet valve for prewash turns on.	Water level frequency	
5	Inlet valve for main wash turns on.	Water level frequency	
6	Inlet valve for hot water turns on.	Water level frequency	For Hot&Cold Model
7	Inlet valve for atomizing turn on.	Water level frequency	
8	Tumble counterclockwise	rpm	
9	Heater turns on for 3 sec.	Water temperature	
10	Drain pump turns on.	Water level frequency	
11	Off	-	



7-3. HOW TO CHECK THE WATER LEVEL FREQUENCY

Touch the Spin and Wrinkle Care button simultaneously. Keeping touch, the digits indicate the water level frequency.



7-4. ERROR DISPLAY

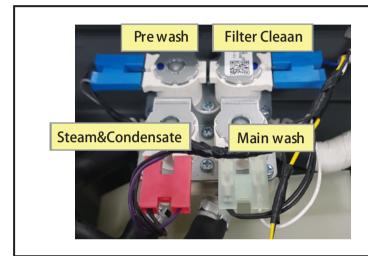
- If you press the Start/Pause button in error condition, any error except <code>"PF_"</code> will disappear and the machine will change into the pause status.
- In case of $\[\[\] PE \]$, $\[\] EE \]$, if the error is not resolved within 20 sec., and in case of all other errors, if the error is not resolved within 4 min., the power will turn off automatically and the error only will blink. But in the case of $\[\] FE \]$, the power will not turn off.

	ERROR	SYMPTOM	CAUSE	
1	WATER INLET ERROR		Not reached the water level(248) within 10 minutes after water supplied or not reached to the preset water level within 25 minutes. □ Page 24	
2	WATER OUTLET ERROR	[DE	⊠Not fully drained within 10 minutes.	
3	OVERFLOW ERROR	[FE]	 	
4	PRESSURE SENSOR S/W ERROR	PE	☑The pressure sensor switch is out of order. □ Page 29	
5	DOOR OPEN ERROR	dE 1	 ☑In case of operating the reservation function or the other function with door opened. Close the door, then the error display is resolved. ☑The door switch is out of order. 	
6	UNBALANCE ERROR	LIE	☑The appliance is tilted. ☑Laundry is gatherd to one side. ☞ Page 25	
7	THERMISTOR(HEATING) ERROR	[E	☑The THERMISTOR is out of order. Page 33	

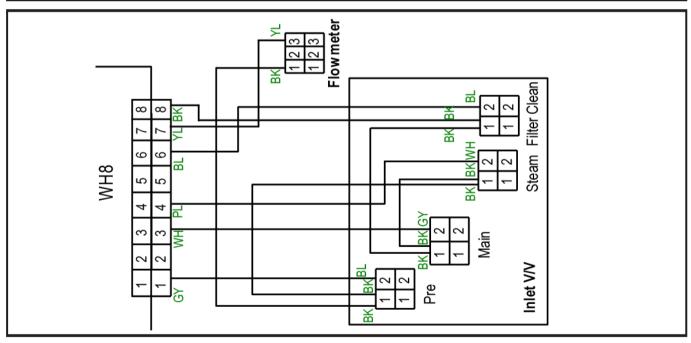
	ERROR	SYMPTOM	CAUSE	
8	MOTOR LOCKED ERROR	LE	☑The connector in the LEAD WIRE ASSEMBLY is not connected to the connector of STATOR ASSEMBLY. ☞ Reconnect or repair the connector. ☞ Page 36	
9	POWER FAILURE	PF	☐The washer experienced a power failure ☐ Press the start/pause button	
10	FROZEN FAILURE	FF	Supply warm water into the drum and unfreeze drain hose and drain pump. Wet a towel in warm and apply to supply hose.	
11	VIBRATION SENSOR ERROR	<u> </u>	Malfunction of vibration sensor	
12	DRY HEATER ERROR	[dHE]	 The Dry Heater is out of orde The Connector of the Dry Heater is not connecte properly to the connector in the Main PWB ASSEMBLY The Dry fan motor is out of orde 	

7-5. TROUBLESHOOTING WITH ERROR

Symptom	Check Point
1.INLET VALVE ERROR	1.Check Electric Wiring. 2.Check Inlet valve's Resistance. 3.Check Inlet valve clogged. 4.Voltage of the inlet valve's connector. - LQC mode: Valve running with 13.6V ± 10% - In normal cycle: Valve running with 7V±10% Need to check 2s later from valve start to running







Water Inlet Error (IE)

[Note] Environmental safety check list

- 1. No water tap leakage or freeze
- 4. No entanglement of water supply hose.
- 2. No water shortage.
- 5. No water supply hose leakage
- 3. The inlet filter is not cloggeed.





Check the Water tap and open it fully.



When there is water in the tub, is the water level frequency over 26.0khz?



Check the Air Chamber and the Tube (clogged) Check the water level frequency again, if it is over 26.2KHz, replace the Pressure switch.



Is the Connector connected correctly to the Main PCB and the Inlet Valve? is the Harness alright?





NO

Reconnect or repair the Connector. Or replace the Harness.



Is the resistance of each Inlet valve within $3.5 \sim 4.5 \text{ k}\Omega$?



- 1 Pre Valve
- 2 Main Valve

NO

Replace the Inlet Valve.



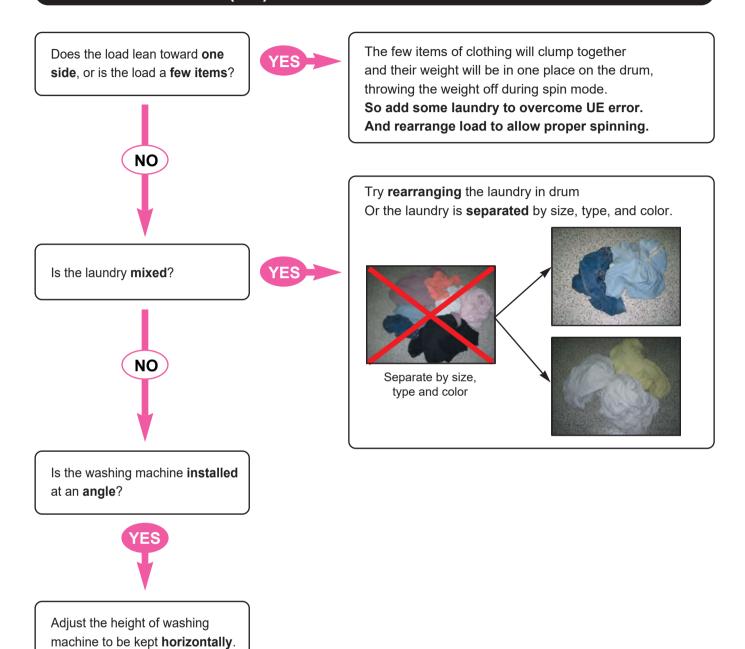
When the washing machine is started, is the inlet valve operating?



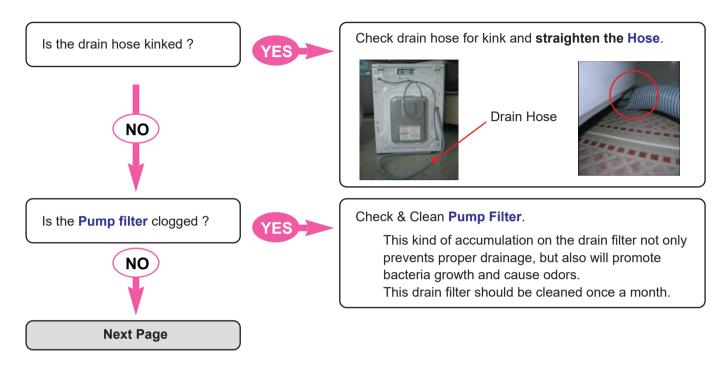
Replace the Main PCB.

Unbalanced Error (UE)

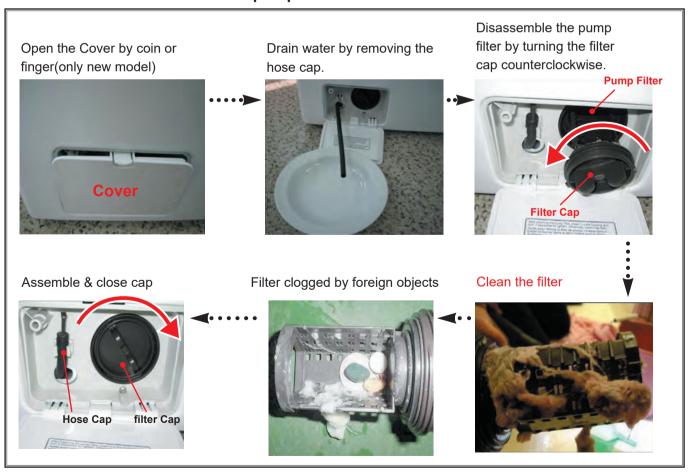
(☞Page 7)

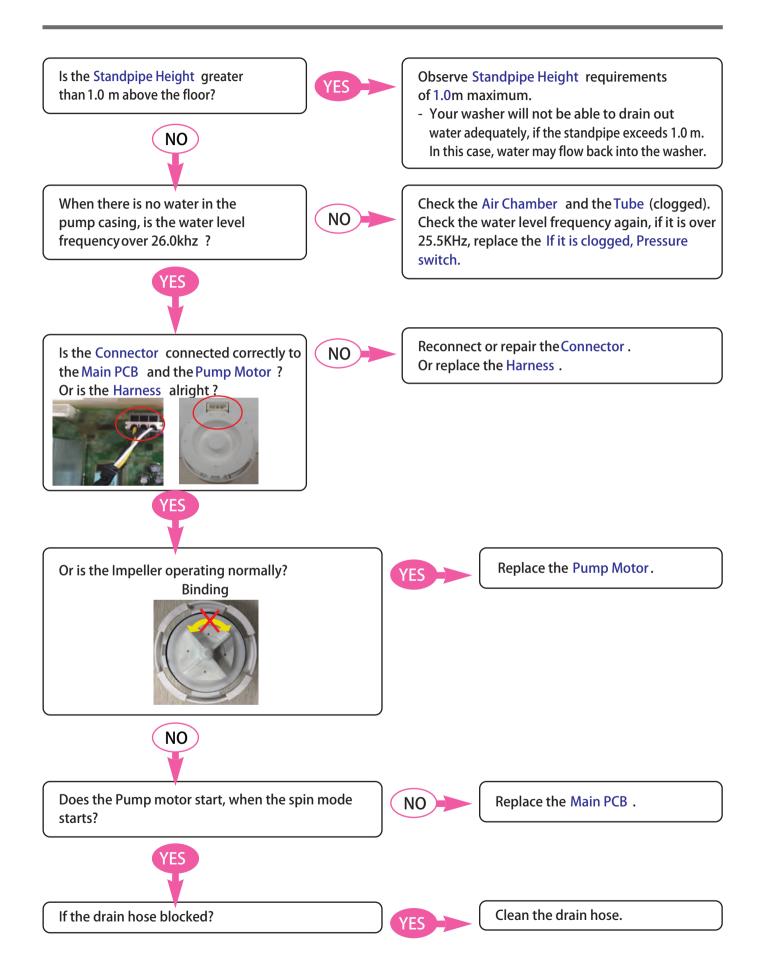


Water Outlet Error (OE)



* How to disassemble and clean pump filter





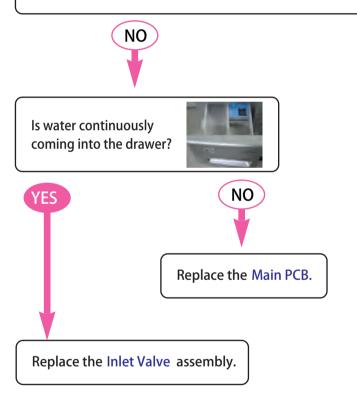
FE (Overflow Error)

Power off for 10sec. Then power on.

Is the water level over reference line and is the water level f requency under 21.3kHz?



- * Water level frequency
 - Touch and Hold 'Spin' & 'Turbo Wash' simultaneously.



YES

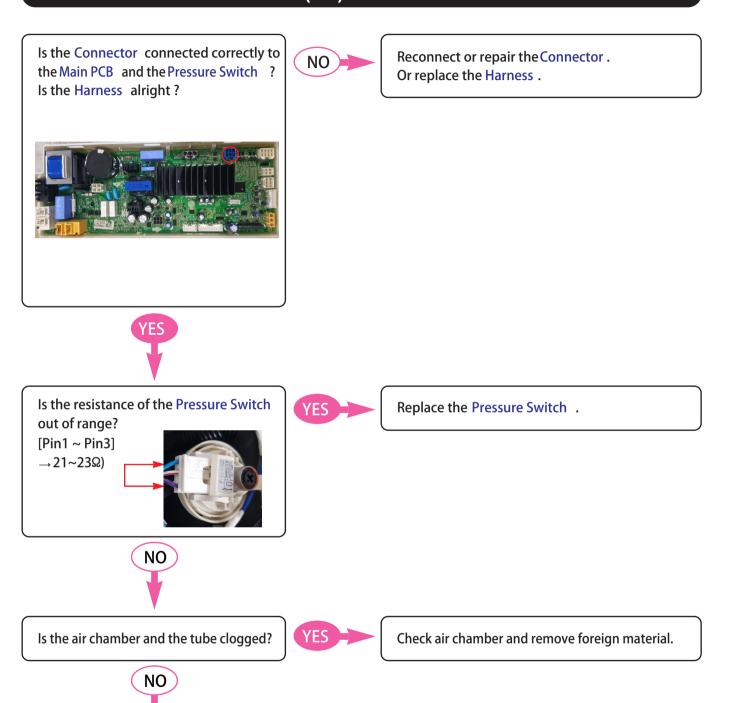
Drain out the water and then check the Air Chamber and the Tube (clogged).

If FE is displayed again, then replace the Pressure Switch .

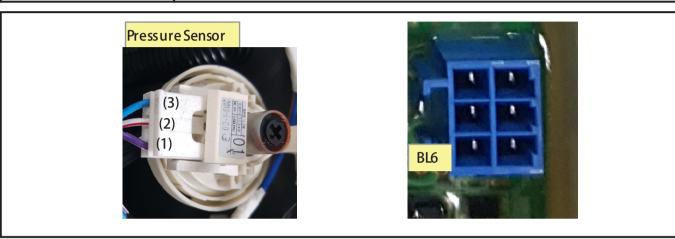
If FE is displayed again, then replace the Main PCB.

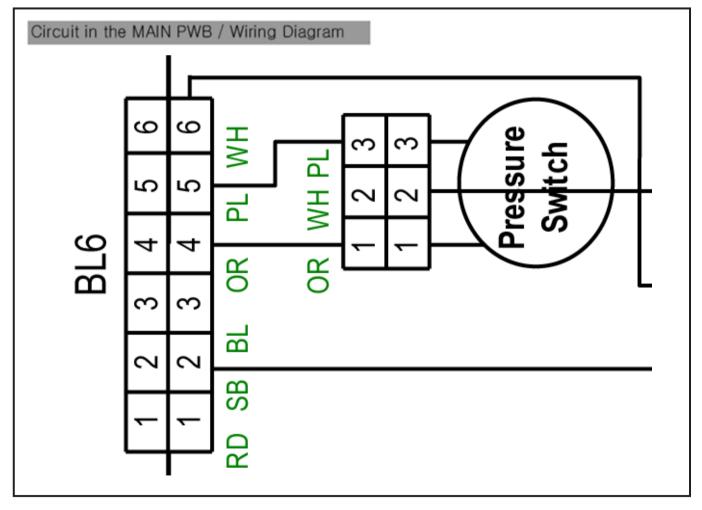
Pressure Sensor S/W Error (PE)

Replace the Main PCB.

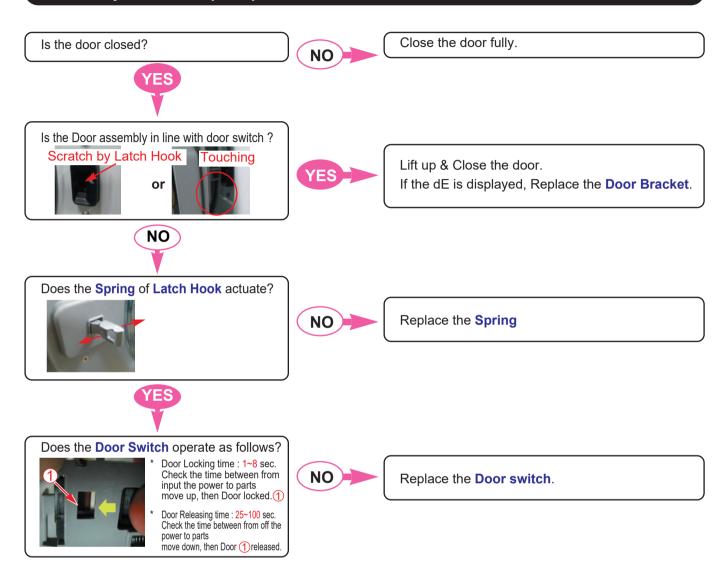


Symptom	Check Point
1.PRESSURE SENSORERROR(PE)	1.Check Electric Wiring. 2.Check Pressure sensor's Resistance. 3.Check Air Chamber and Tubeclogged.

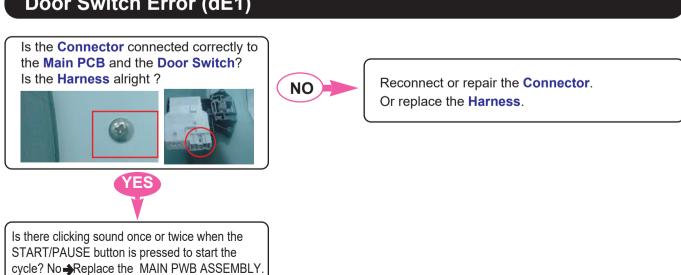




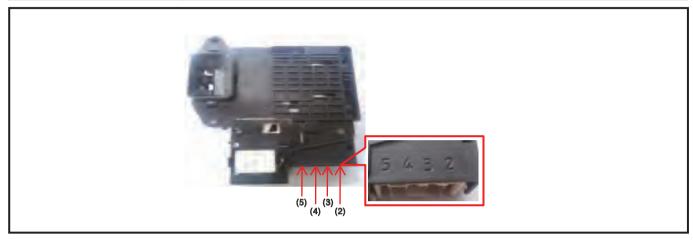
Door Open Error (dE2)

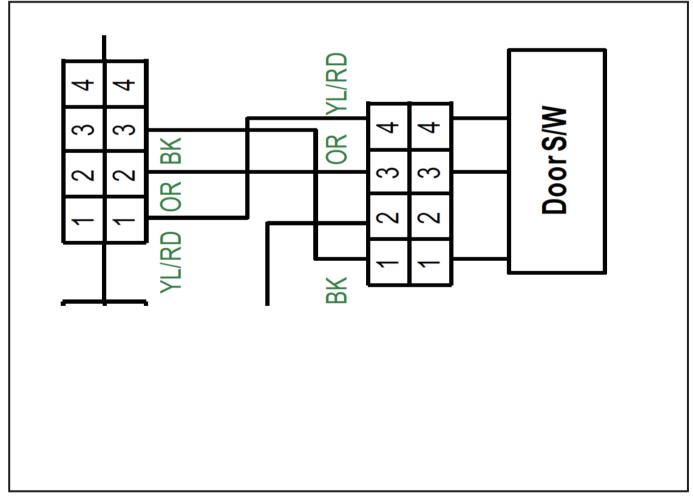


Door Switch Error (dE1)



Symptom	Check Point	
1. DOOR OPEN ERROR(dE)	1.Check Electric Wiring. 2.Check latch hook sping.(Cracked) 3.Check Door switch's Resistance. 4.Check Voltage of Door switch's connector.	





Thermistor (Heating) Error (tE)

Is the Connector connected correctly to the Main PCB and the Thermistor and the Heater? Is the Harness alright?





Heater for Washing



Is the resistance of the Thermistor out of range 44 \sim 53 K at 25 $^{\circ}$ Ω (Page 17)



Replace the Thermistor.

Reconnect or repair the Connector .

Or replace the Harness.



Is the resistance of the Heater out of range24.5 ~ 28.5 (for Washing) ? (Page 19)



Replace the Heater.

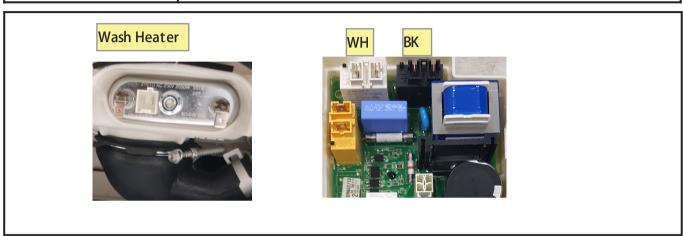


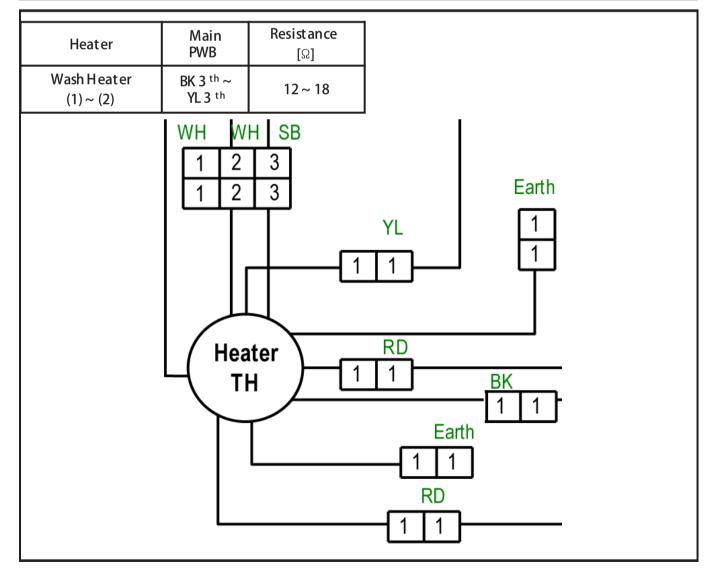
Replace the Main PCB.

[Note] Thermistor Spec

S	Temp	Resistance (k Ω)		
Р		MIN	STD	MAX
Ε	30 ° C	36.35	39.45	42.72
C	40 ° C	24.20	26.05	27.97
	60 ° C	11.43	12.12	12.82
	70 ° C	8.088	8.514	8.940
	95 ° C	3.544	3.791	4.045
	105 ° C	2.617	2.816	3.023

Symptom	Check Point	
1.HEA TING ERROR(tE) 1	.Check Electric Wiring. 2.Check Heater's Resistance. 3.Check Thermistor's Resistance. 4.Water Leaked into the Thermistor's Connector.	





Wash Thermistor



WH6

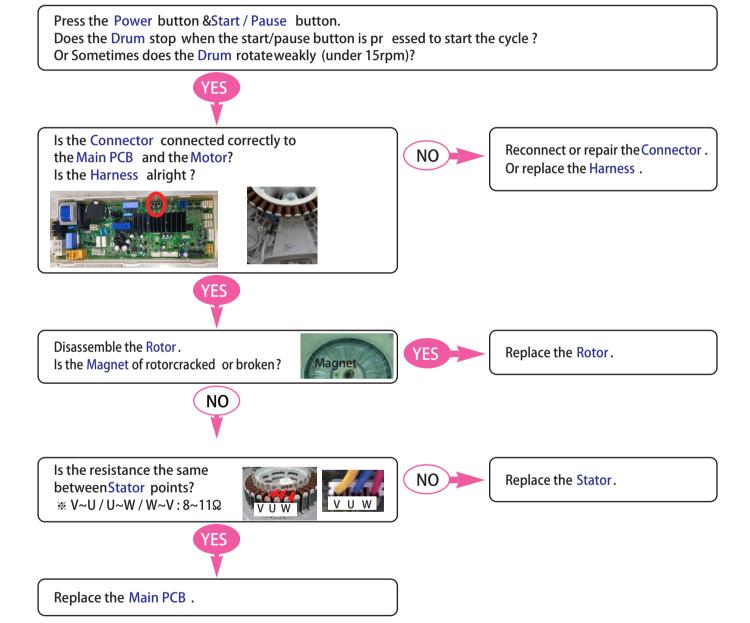


Thermistor	Main PWB	Resistance	Remarks
Thermstor		[kQ]	°F (℃)
	NA3 4 th ~ NA3 5 th	39.5	86(30)
Wash		26.1	104(40)
Thermistor		12.1	140(60)
(1) ~ (2)		8.5	158(70)
(1) (2)		3.8	203(95)
		2.8	221(105)

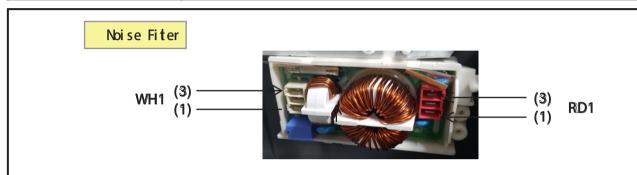
Motor Locked Error (LE)

[Pre Check]

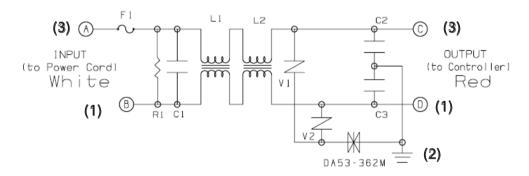
• Gentle wash cycles, such as Perm Press, Delicates, Hand Wash, and Wool/Silk should only be used for smaller loads. Because these cycles are more gentle in tumbling and spinning, putting too much in the drum can register an issue with the motor. Remove items, reset unit and test with a Rinse/Spin cycle.



Symptom	Check Point
1. NO POWER	1.Check Electric Wiring. 2.Check the Customer's outlet. 3.Check Noise Filter. 4.Check LED on in Main PWB



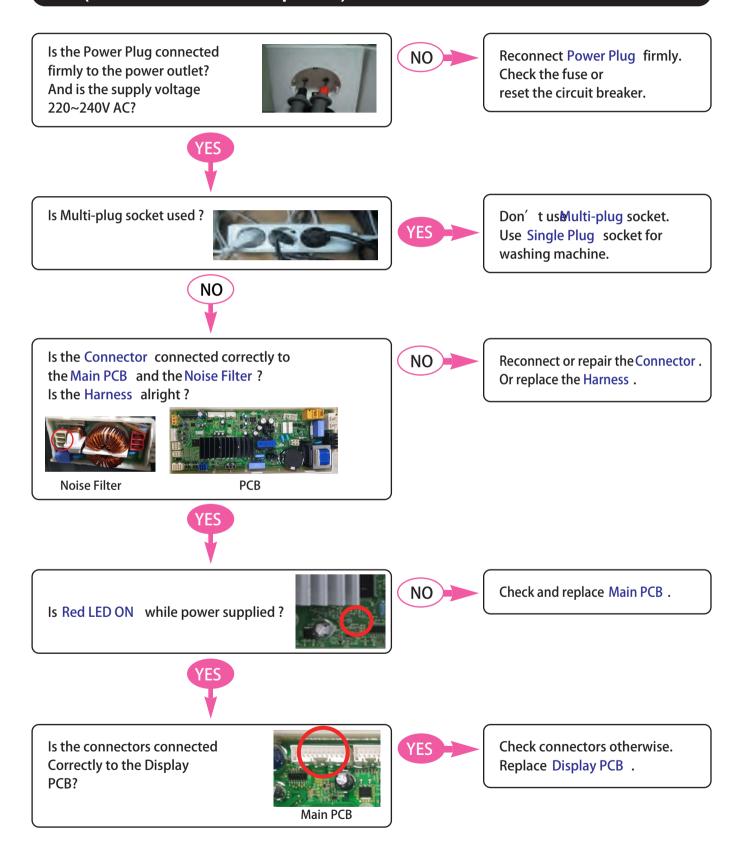
Circuit in the MAIN PWB / Wiring Diagram



Noise Filter	Resistance [᠒]
WH1 (1) ~ RD1 (3)	0
WH1 (3) ~ RD1 (1)	0

8. TROUBLESHOOTING WITHOUT ERROR CODES

PF (Power Failure or no power)



Vibration & Noise During Spin



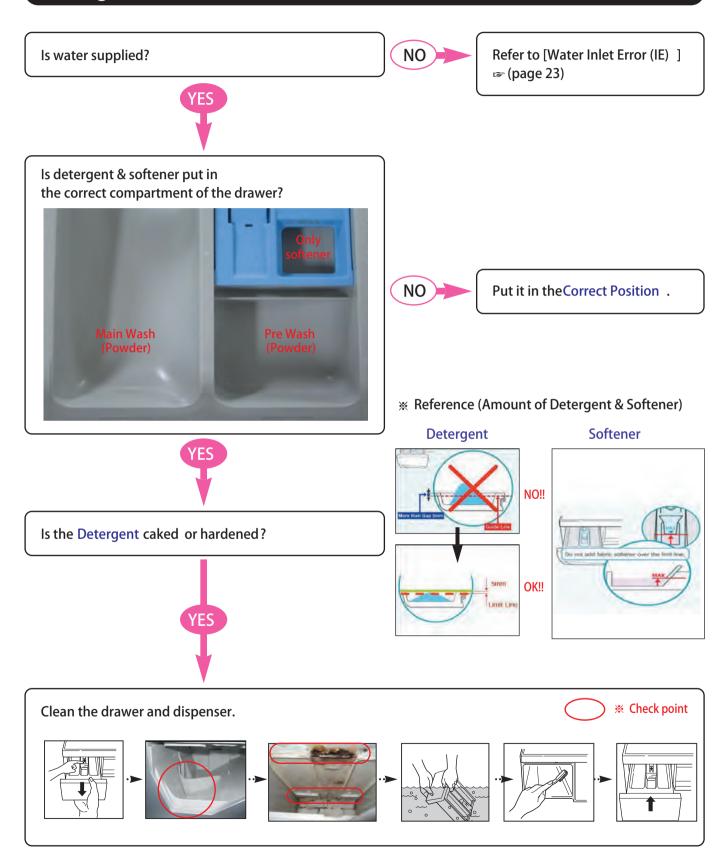


Refer to INSTALLATION . (Page 7)

Remove the Transit Bolts

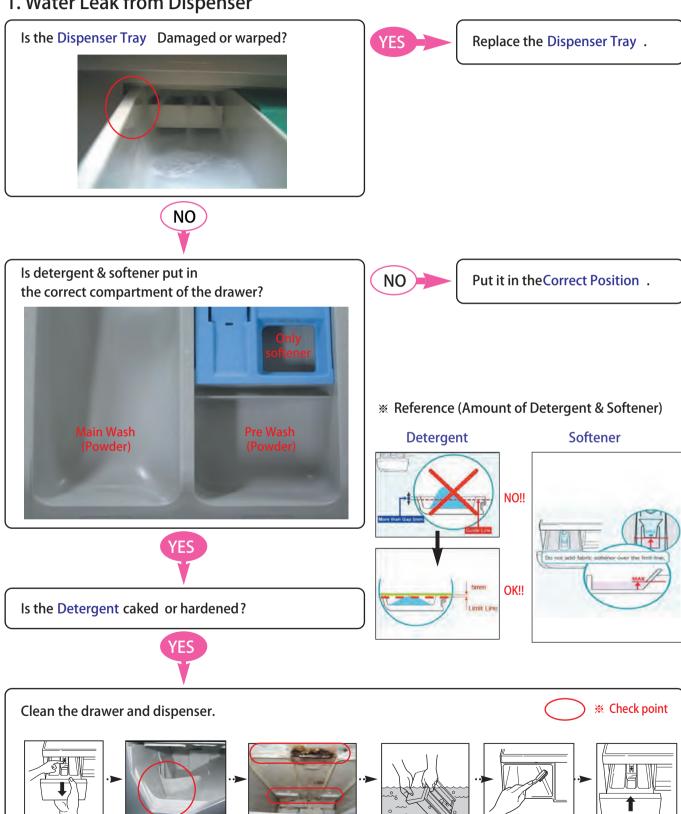
NO

Detergent & Softener does not flow in

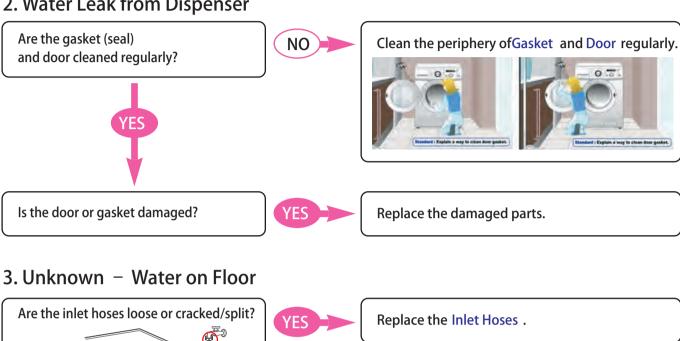


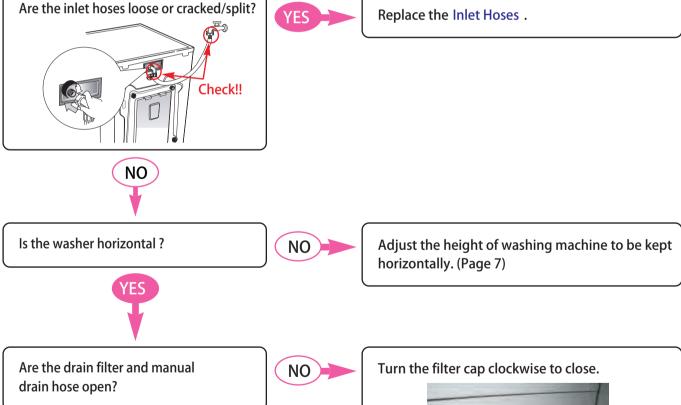
Water Leak

1. Water Leak from Dispenser



2. Water Leak from Dispenser





Before using the Wi-fi function

Application Installation

Search for the LG Smart ThinQ application from the Google Play Store on a smart phone. Follow instructions to download and install the application.

Product Registration

- Run the LG Smart ThinQ application on a smart phone.
- Create an account and sign in.
- 3 Select Register.
- Select Front Load Washer.
- **5** Follow the instruction on the smart phone.

NOTE

- To verify the Wi-Fi connection, check the Wi-Fi icon(♠) on the control panel is lit.
- LG Smart ThinQ is not responsible for any network connection problems or any faults, malfunctions, or errors caused by network connection.
- The machine supports 2.4 GHz Wi-Fi networks only.
- If the appliance is having trouble connecting to the Wi-Fi network, it may be too far from the router.Purchase a Wi-Fi repeater (range extender) to improve the Wi-Fi signal strength.
- The Wi-Fi connection may not connect or may be interrupted because of the home network environment.
- The network connection may not work properly depending on the internet service provider.
- The surrounding wireless environment can make the wireless network service run slowly.
- The application is subject to change for appliance improvement purposes without notice to users.

Using the Wi-Fi Function

Communicate with the appliance from a smart phone using the convenient smart features.

Using the Application

- Select the appliance in the application.
- 2 Select the menu on the upper right side to access settings and features.

Washer Cycle

Set or download any perferred cycle and operate by remote control.

Tub Clean Coach

Check the appropriate Tub Clean period by washing frequency.

Energy Monitoring

Check the energy consupmtion of the recently used cycles and monthly average.

Smart Diagnosis

This function provides useful information for diagnosing and solving issues with the appliance based on the pattern of use.

Settings

Various functions are available.

Push Alert

Turn on the Push Alerts to receive appliance status notifications. The notifications are triggered even if the LG Smart ThinQ application is off.

Open Source Software Notice Information

To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit http://opensource.lge.com.

In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to opensource@lge.com. This offer is valid for three (3) years from the date on which you purchased the product.

Declaration of Conformity



Hereby, LG Electronics European Shared Service Center B.V., declares that this Washing machine is compliant with the essential requirements and other relevant provisions of Directive 1999/5/EC. The complete Declaration of Conformity may be requested through the following postal address:

LG Electronics European Shared Service Center B.V. Krijgsman 1 1186 DM Amstelveen The Netherlands

or can be requested at our dedicated DoC website: http://www.lg.com/global/support/cedoc/cedoc#

This device is a 2.4 GHz wideband transmission system, intended for use in all EU member states and EFTA countries.

For consideration of the user, this device should be installed and operated with a minimum distance of 20 cm between the device and the body.

Wireless LAN Module Specifications

Model	LCW-004	
Frequency Range	2412~2472 MHz	
Outrot December	IEEE 802.11 b : 17.82 dBm	
Output Power (Max.)	IEEE 802.11 g : 17.72 dBm	
(Max.)	IEEE 802.11 n : 16.61 dBm	

Using the Smart Diagnosis™ Function

Should you experience any problems with the appliance, it has the capability of transmitting data to a smart phone using the LG Smart ThinQ application or via the phone to the LG Customer Information Centre.

Smart Diagnosis™ can not be activated unless the appliance is turned on by pressing the **Power** button. If the appliance is unable to turn on, then troubleshooting must be done without using Smart Diagnosis™.

Smart Diagnosis™ Using a Smart Phone

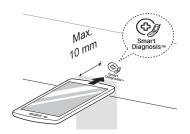
- 1 Open the LG Smart ThinQ application on the smart phone.
- 2 Select the appliance and then the menu on upper right side.
- 3 Select the Smart Diagnosis, then press Start Smart Diagnosis button.

NOTE

- If the diagnosis fails several times, use the following instructions.
- Select the Try Again or Audible Diagnosis.
- Follow the instructions on the smart phone.
- 6 Keep the phone in place until the tone transmission has finished. View the diagnosis on the phone.

Smart Diagnosis™ Through the Customer Information Centre

- 1 Press the **Power** button to turn on the washing machine. Do not press any other buttons or turn the programme knob.
- When instructed to do so by the call center, place the mouthpiece of your phone close to the Power button.



- 3 Press and hold the **Temp.** button for 3 seconds, while holding the phone mouthpiece to the icon or Power button.
- 4 Keep the phone in place until the tone transmission has finished. Time remaining for data transfer is displayed.
 - For best results, do not move the phone while the tones are being transmitted.
 - If the call centre agent is not able to get an accurate recording of the data, you may be asked to try again.
- Once the countdown is over and the tones have stopped, resume your conversation with the call centre agent, who will then be able to assist you using the information transmitted for analysis.

NOTE

- The Smart Diagnosis[™] function depends on the local call quality.
- The communication performance will improve and you can receive better service if you use the home phone.
- If the Smart Diagnosis[™] data transfer is poor due to poor call quality, you may not receive the best Smart Diagnosis[™] service.

WARNING

- Unplug the washing machine before cleaning to avoid the risk of electric shock. Failure to follow this warning may result in serious injury, fire, electric shock, or death.
- Never use harsh chemicals, abrasive cleaners, or solvents to clean the washing machine. They may damage the finish.

Cleaning Your Washing Machine

Care After Wash

- After the cycle is finished, wipe the door and the inside of the door seal to remove any moisture.
- Leave the door open to dry the drum interior.
- Wipe the body of the washing machine with a dry cloth to remove any moisture.



Cleaning the Exterior

Proper care of your washing machine can extend its life.

Door:

 Wash with a damp cloth on the outside and inside and then dry with a soft cloth.

Exterior:

- Immediately wipe off any spills.
- Wipe with a damp cloth.
- Do not press the surface or the display with sharp objects.

Cleaning the Interior

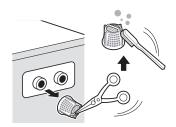
- Use a towel or soft cloth to wipe around the washing machine door opening and door glass.
- Always remove items from the washing machine as soon as the cycle is complete. Leaving damp items in the washing machine can cause wrinkling, colour transfer, and odour.
- Run the Tub Clean programme once a month (or more often if needed) to remove detergent buildup and other residue

Cleaning the Water Inlet Filter

- Turn off the supply taps to the machine if the washing machine is to be left for any length of time (e.g. holiday), especially if there is no floor drain (gully) in the immediate vicinity.
- 12 icon will be displayed on the control panel when water is not entering the detergent drawer.
- If water is very hard or contains traces of lime deposit, the water inlet filter may become clogged. It is therefore a good idea to clean it occasionally.
- Turn off the water tap and unscrew the water supply hose.



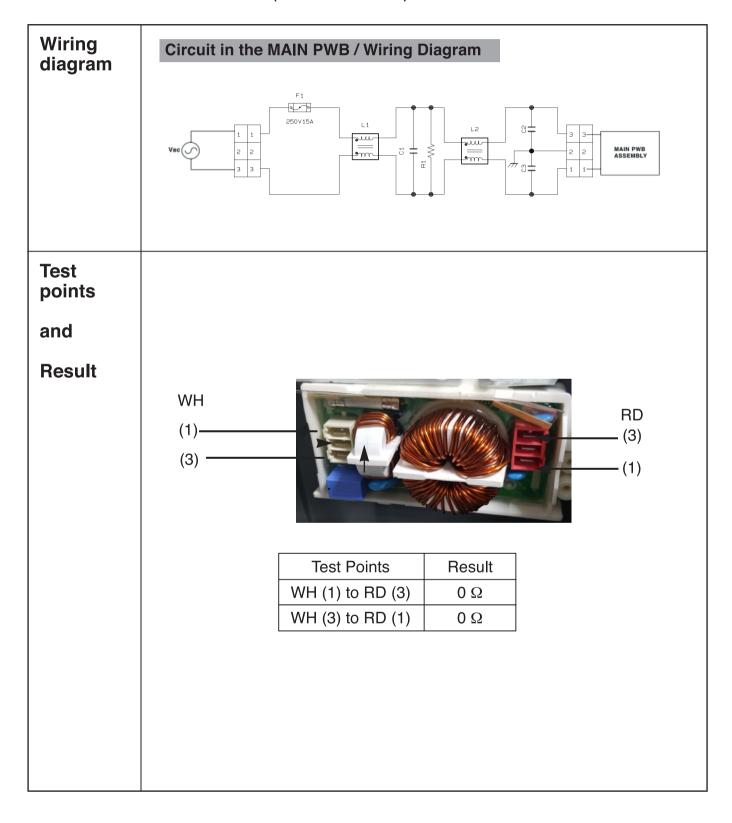
Clean the filter using a hard bristle brush.



9. Part inspection

▲ WARNING When Resistance (Ohm) checking the Component, be sure to turn the power off, and do voltage discharge sufficiently.

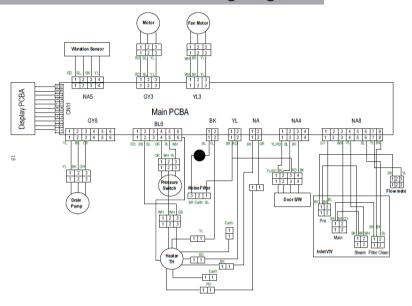
9-1. FILTER ASSEMBLY (LINE FILTER)



9-2. DOOR LOCK SWITCH ASSEMBLY

Wiring diagram

Circuit in the MAIN PWB / Wiring Diagram



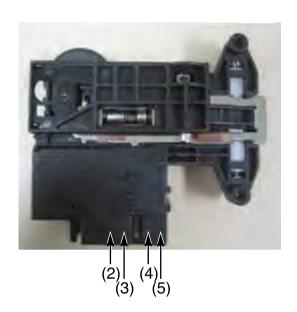
Function

The Door Lock Switch Assembly consists of a Heating PTC, a Bimetal, a Protection PTC, and a Solenoid. It locks the door during a wash cycle.

- 1. Operation for door closing
 - After the system turns on, PTC heating starts up through terminal 2~4's authorizing the power on.
 - After PTC heating starts up and before solenoid operation is driven, force the system to the off position through CAM.
 - ⇒ Door close
 - Authorizing one impulse through terminal 3~4 (PTC & solenoid) will make the door lock.
 - Door lock is detected when switches in terminal 4~5 are set closed.
 - ⇒ CAM rotation will forcibly clear off the connection.

 The maximum, allowable number of impulse authorizations is 2.
 - ⇒ Upon the third authorization of the impulse, the position of CAM goes back to the door-open position.
 - Authorizing the impulse occurs in 4.5 seconds upon input for max performance and two authorization processes are allowed at most.
 - ⇒ Normal operation period of PTC heating: 1.5 5 seconds. (Defects from the development process.)
- 2. Operation for door opening
 - With a temporary stop, door automatically opens by CAM rotations after authorizing the impulse from the terminal 3 ~ 4 and the power turns off – maximum of 3 times of the authorizing period.
 - Upon the fourth authorization of the impulse, the position of CAM goes back to the door-close position.

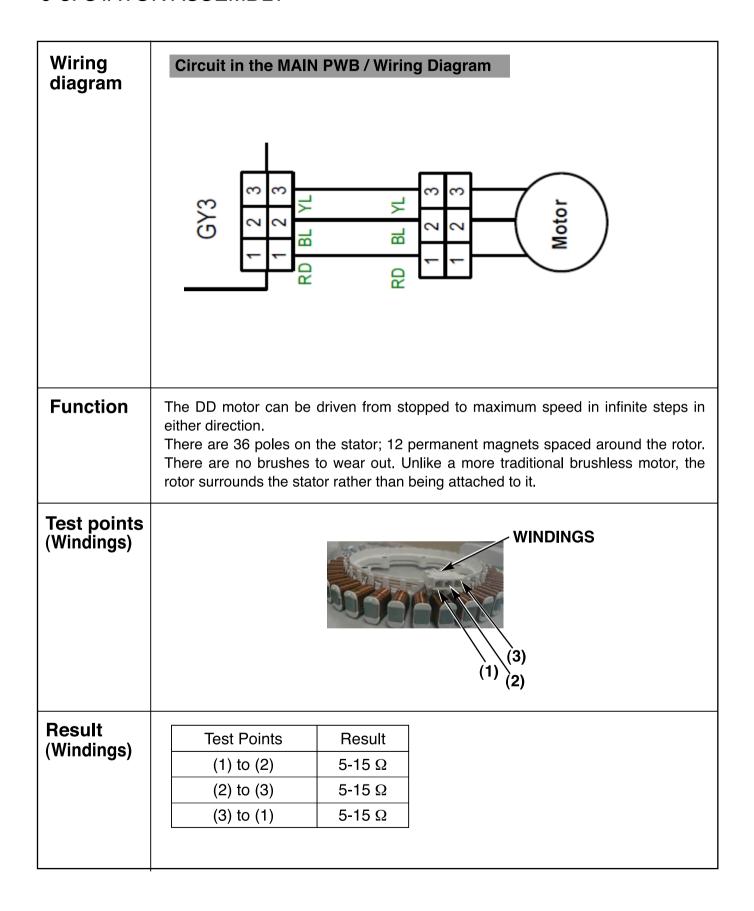
Test points



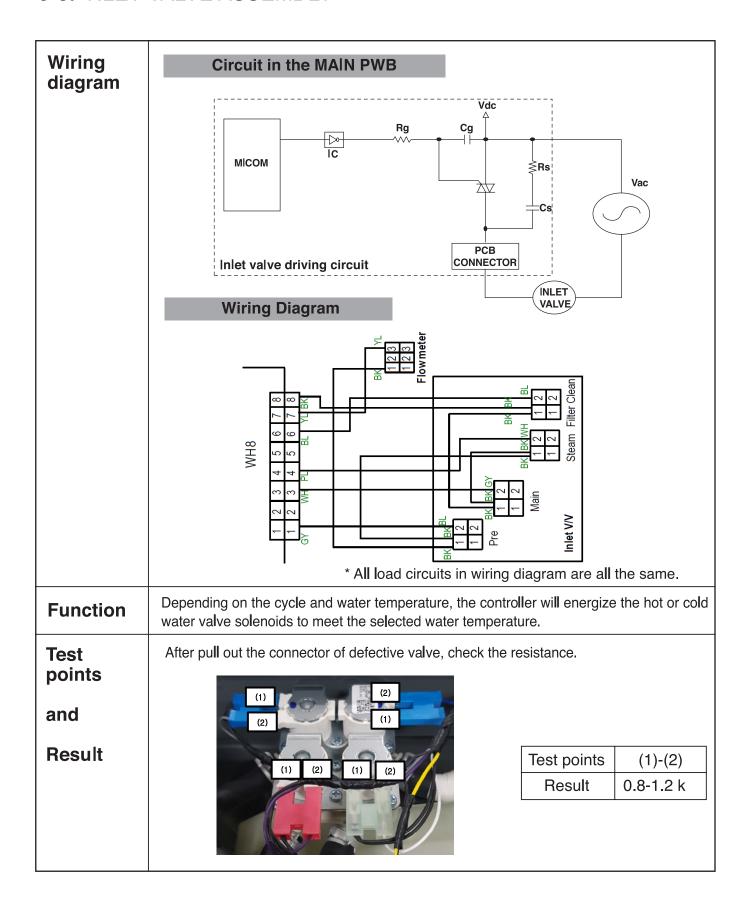
Result

Test Points	Result	Remarks
(2) to (4)	700-1500 Ω	At 77°F (25°C)
(3) to (4)	60-90 Ω	At 77°F (25°C)
(4) to (5)	Infinity	
(2) to (4)	120 Vac	Voltage Input

9-3. STATOR ASSEMBLY



9-5. INLET VALVE ASSEMBLY



10. DISASSEMBLY INSTRUCTIONS

* Remove the power cord from the outlet before disassembling or repairing the unit.

CONTROL PANEL ASSEMBLY

Screws



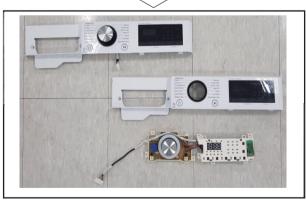
- ① Unfasten the screws from the parts displayed in the fig.
- ② Disassemble the top plate assembly by sliding it back and then lifting it up.



- 3 Pull the drawer panel assembly out.
- 4 Unfasten the screws from the parts displayed in the fig.



- (5) Unfasten the screws from the parts displayed in the fig.
- 6 Disconnect the wiring connectors between the multi harness and the control panel assembly.



- 7) Disassemble the control panel assembly.
- ® Disassemble the display PCB assembly from the control panel assembly by unfastening the screws.
 - *When re-assemble should fasten by screw (4EA)





- 9
- ① Disconnect the wiring connector between the Display PCB assembly and the NFC PCB assembly.

PWB ASSEMBLY(MAIN)



- ① Unscrew four screws.
- 2 Disassembly back cover assembly.



3 Unscrew the screw.



4 Pull the PWB assembly in direction of red arrow.



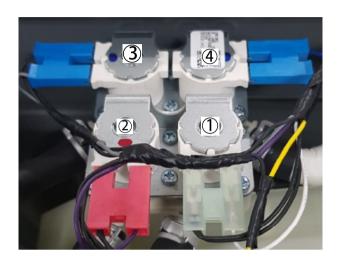
⑤ Disassembly PWB like the picture.

DISPENSER ASSEMBLY



- ① The plate assembly(Top) are disassembled.
- 2 Pull the drawer to arrow direction.
- 3 Two screws are unscrewed.
- 4 Clamp
- (5) Cutting cable ties and the ventillation hose are disassembly on the dispenser

INLET VALVE



- ① Disconnect the wiring connector.
- ② Remove the valve by two screws of the valve holder.
- ***** When reconnecting the connector

VALVE ① (Main Wash)	White/Black	
VALVE ② (Steam)	Purple/Black	
VALVE③(Pre Wash)	Gray/Black	
VALVE ④ (Filter Clean)	Blue/Black	

- Rating: 12V
- Resistant : $3.5\sim4.5$ k Ω





- ① Open the door completely.
- 2 Remove the three screws from the hinge.
 - When removing the Door Assembly, it is necessary to hold the Bracket that is inner of the Cabinet Cover.

Removing method of remained water

Pull it out from hose.

First, prepare a bucket to put in the remained water.



CAP(REMAING HOSE)

CABINET COVER



- 1 The plate assembly(Top) is disassembled.
- 2) Pull out the drawer and unscrew 2 screws.
- 3 Lift the side the Control Panel Assembly and pull it out



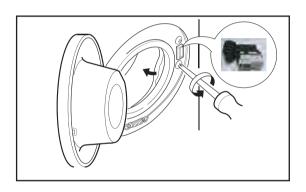
- 1) Two screws are unscrewed.
- ② Push out PANEL ASSEMBY, CONTROL after Push the hook(①, ②) below.
- ③ Unscrew the screws from the lower cover.
- 2 Disassembly cap cover and pump case.
- 3 Unscrew the screw from the CABINET COVER.
- (4) Remove gasket clamp and release gasket from cabinet cover.



4 Lift and separate the cabinet cover.

* NOTE: When assembling the CABINET COVER, connect the Door S/W connector.

SWITCH ASSY, DOOR LOCK



- 1 Two screws are unscrewed and disassembly cabinet cover.
- ② The Door Lock S/W is disconnected form the wiring connector and the strap.

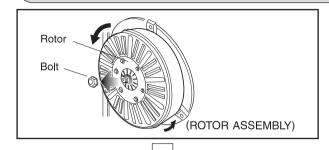


- Just check cut-off.
- Check the operating time.

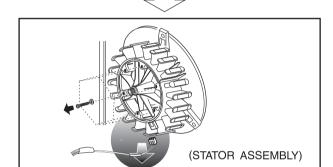


- * Door Locking time: 1~8 sec. Check the time between from input the power to part① move up, then Door locked.
- * Door Releasing time: 25~100 sec. Check the time between from off the power to parts 1 move down, then Door released.

ROTOR ASSEMBLY, STATOR ASSEMBLY, FRICTION DAMPER



- (1) Remove the back cover.
- 2 After loosening the bolt, Rotor, pull out the rotor.



- (1) Remove the 6 bolts from the stator.
- ② Disconnect the 2 connectors.

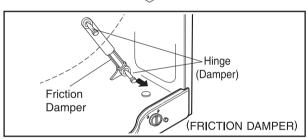
Motor Stator



 $V \sim U (8 \sim 11)$ U~W(8~11) $W \sim V (8 \sim 11)$



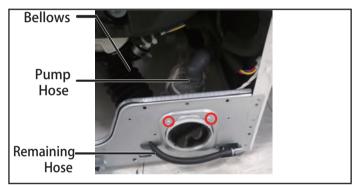
- (1) Remove the hinges (Damper) at the Tub. 2) The Hinge(Damper) at the base is pulled off by
- pressing on the snaps at the sharp end. ③ The hinge at the base is pulled off. (In directions of the arrow)



PUMP

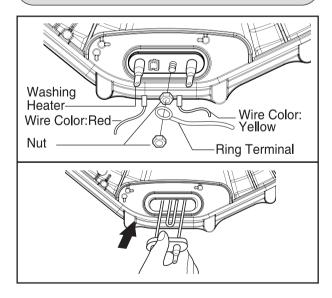


 Disassembly Top Plate, Control Panel, Drawer Panel Assembly, Cabinet Cover Assembly, Lower Cover Assembly



- 4 Remove pump outlet hose.
- ⑤ Remove tub pump bellows.
- 6 Remove cap(Remaining Hose).
- **⑦** Disconnect the wiring.
- **8** Three screws are unscrewed from the cabinet.
- 9 Remove the pump to arrow direction.
 - Rating: 26V
 - Resistant : 3.46~3.98 Ω

HEATER

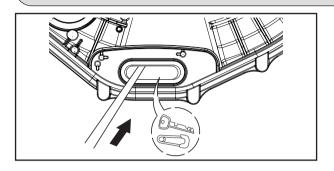


- 1 Loosen the nut.
- 2 Remove washing heater by pulling out.
 - < Heater for Washing>
 - Rating: 230V 2000W
 Resistant: 24.5~28.5 Ω

CAUTION

When assembling the washing heater, insert the heater to heater clip on the bottom of tub and check the position of wire color.

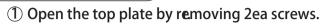
WHEN FOREIGN OBJECT STUCK BETWEEN DRUM AND TUB



- ① Remove washing heater.
- ② Remove the foreign object(wire,coin,etc) by inserting long bar in the hole.

How to disassemble Vibration sensor (Only for Vivace 550 model)









2 Cut cable ties from tub cover.



3 Remove the vibration sensor housing from the Harness





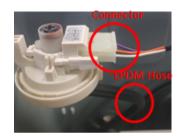
4 Remove the vibration sensor from tub cover.

How to disassemble Pressure sensor(for Vivace 460, 550 model)





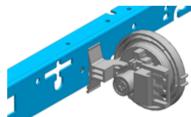
① Open the top plate by removing 2ea screws.



② Remove the EPDM hose and connector from the pressure sensor.

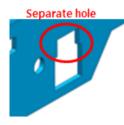








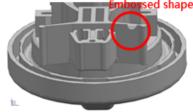
% If there is no separate hole, the hook shape of pressure sensor should be broken and separated.(Replace with new one)





*When assembling, the embossed shape of the hook should be aligned in the circular hole.(For horizontal fixing)

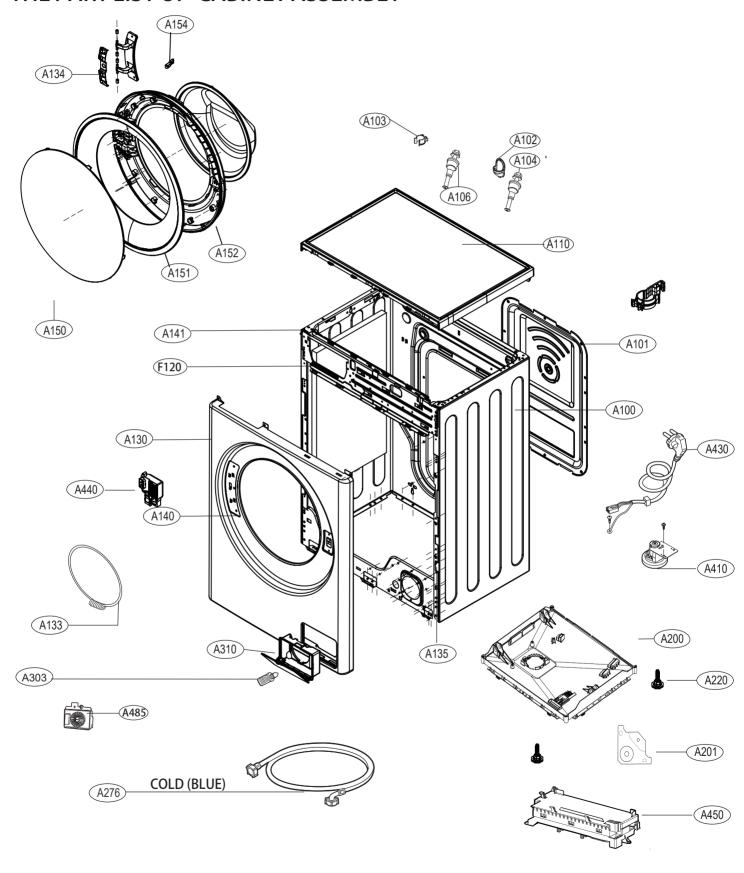




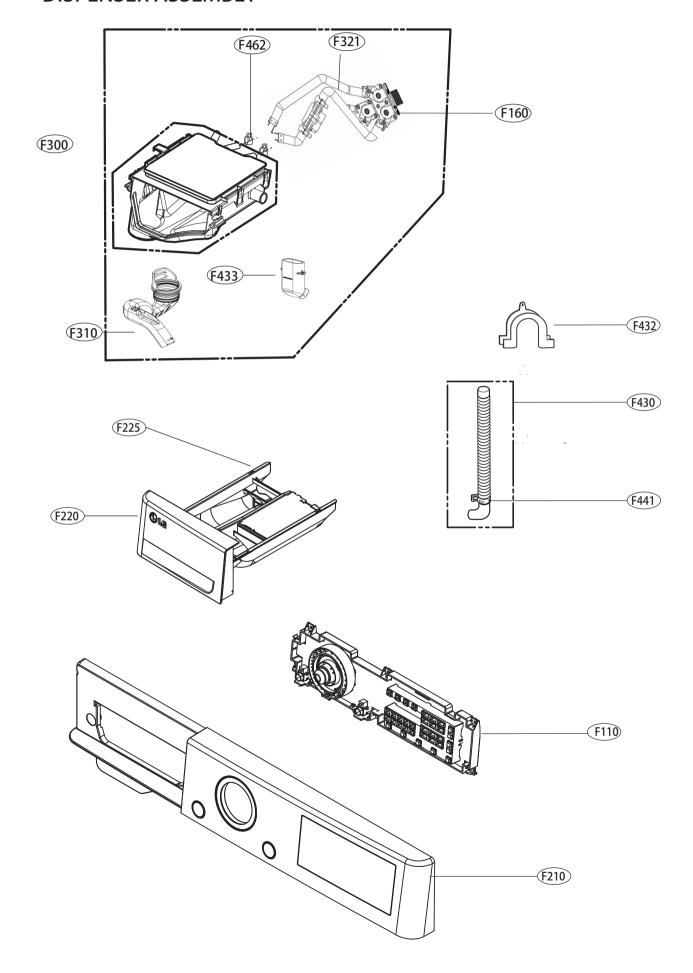


EXPLODE VIEW AND PART LIST

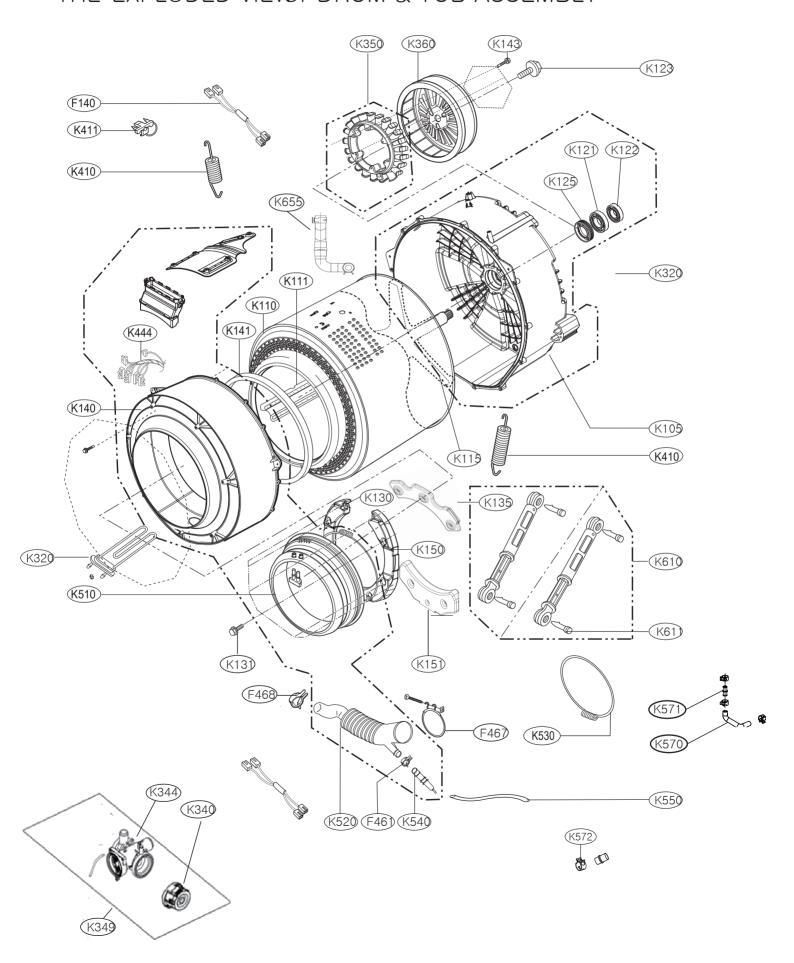
THE PART LIST OF CABINET ASSEMBLY



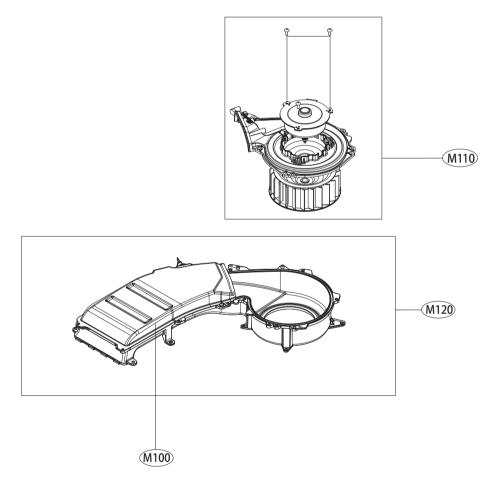
THE EXPLODED VIEW OF CONTROLANEL & DISPENSER ASSEMBLY



THE EXPLODED VIEWOFDRUM & TUB ASSEMBLY



11-4. THE EXPLODED VIEW OF DRYER





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