

¡á Washer is not energized.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Household Power supply</u>			
1. Check whether connection between the plug and the electrical is poor	Poor	Defect of the electrical	Change the electrical.
2. Measure voltage of the electrical.	Around rating 0V	No defect Defect of household power supply	Call for power supply company
<u>Wiring of the Washer</u>			
1. Measure resistance between both ends of the power supply cord with both the plug pins short-circuited.	Less than 1 ¥ 0 ¡ ¥ 0	No defect Open circuit of the power supply cord	Change the power supply cord.
2. Check whether every connector in the bundle of connectors has a good connection.	Male & female connectors separated	Poor connection.	Remove the cause to give strain and reconnect them.
3. Check resistance of every wire to find out a open wire.	¡ ¥ 0	Wire is opened.	Change the lead wire.
<u>Electrical component</u>			
1. Check resistance with power relay switch turned on	Less than 0.5 ¥ 0 More than 1.0 ¥ 0	No defect Poor contact	Change the Auto Off Switch
2. Check the secondary voltage of the transformer.	10~14V 0V	No defect Coil is open	Change the transformer.
3. Measure resistance to check whether the T.P of the motor is blown out.	¡ ¥ 0 and motor is hot	T.P blown out	Remove cause to overload the motor
4. Check whether the fuse is open.	Open	Defect of the fuse	Change the fuse. CAUTION Check the fuse rating AC100~120V:125V 12A AC220~240V:250V 6A
<u>Controller</u>			
If there are no defects in the above, it should be defect of the controller. If supply voltage is 120% higher than rating the varistar in the controller may be broken. Check supply voltage.	Over 120% voltage than rating check		Change the controller if all the electrical parts have no defects.

¡ á Defects on displaying function

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Main voltage</u> 1. Measure mains voltage at the wall outlet	Less than 85% of the rating.	Low voltage.	To explain that it is caused by low voltage in electric supply and recommend using a transformer if voltage has been continuously low.
2. Measure voltage at the extended outlet that the washer is plugged in if the extended outlet is used and voltage at the electrical outlet is normal in the above.	Less than 85% of the rating	The dia of the lead wire is smaller or many loads are connected at the same outlet	To use a transformer having a enough capacity if using a transformer.
<u>Transformer</u> 1. Measure the secondary voltage of the transformer.	Less than AC 10V	Defect of the transformer.	Change the controller.
<u>Controller</u> 1. Defect of LED. 2. Defect of LED driving circuit. 3. Defect of micom.		Defect of controller.	Change the controller.

¡ á Reset During operation

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Mains Voltage</u> 1. Measure voltage of the outlet that the washer is plugged into during wash and spin.	Less than 80% of the rating.	Mains voltage is too low or size of a lead wire is too small.	Explain that it is caused by low voltage in electric mains and recommend using a suitable size of leads.
2. Reset symptom happens at specific time zone repeatedly.		External noise intruded.	Explain it is caused by using environment. (It happens when equipment with high frequency is used around)
3. Check whether a transformer lent power cut happens. (Fluorescent lamp is transformeriently blinked.)			Explain it is a problem of electric supply environment.

¡ á Reset During operation

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Drain Motor</u> 1. Operate washer setting spin only, then press the start/pause button when the wash motor starts to work and then press the start/pause button again in order for the drain motor to work intermittently.	Reset happens after the drain motor works.	Defect of the drain motor (A noise generated when the internal relay works.)	Change the drain motor
<u>Controller</u> 1. If mains voltage and the drain motor have no defects a defect of the controller is highly possible.			Change the controller.

¡ á Water doesn't come into the wash tub.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Inlet Valve</u> 1. If water doesn't come though the inlet valve works(electric sound occurs) 1) Check whether water mains is cut. 2) Check whether tabs are turned on. 3) Hot & cold tab are opposite connected. 4) Wrongly select water temperature option. 5) If there are no problems in the above, check the inlet valve filters after disconnecting the water supply hoses. 6) If there are no problems in the above a diaphragm hole in the valve is blocked by foreign substance or the plunger in it is locked.			
2. If the inlet valve doesn't work(there is no electric sound)during filling cycle.			
1) Check whether it's connectors are taken off or they have poor connection.	A connector is taken off.	Defect of contact.	Reconnect it or remove the causes to make poor connection.
2) Check resistance of the inlet valve.	∞	Coil is open	Change the inlet valve.

¡ Water doesn't come into the wash bowl.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Pressure Switch</u> 1. Is there PE error on the display which means pressure switch error	PE Error displayed.	Connector is taken off, or lead or coil is open.	Reconnect the connector or change leads. Change the pressure switch if coil is open.
2. Check frequency of the pressure switch without load if wash is proceeding without filling.	Less then 26.2kHz	Defect of the pressure switch.	Change the pressure switch.
<u>Controller</u> 1. Defect of controller is highly possible if inlet valve and pressure switch have no defects in the above.			Change the controller.

¡ Water fills continuously or intermittently.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Wrong Installation/Leakage</u> 1. Check whether the drain hose is laying down on the floor. (For pump model)	Drain hose laying down.	Wrong installation.	The drain hose should be hung on the stand-pipe or the tub. Change the part.
2. Check where water leaks.	Water leaks from a part.	Defect of the part.	Repair it.
<u>Pressure Switch</u> 1. Check the pulsator is rotating when water fills continuously.	It doesn't rotate.	Water pressure is not sensed.	Check the tube of the pressure switch, if it is bent or blocked, repair that.
2. If there is no defect in the pressure switch, check whether the air hole of the outer tub is blocked.	Blocked.	Air hole blocked.	Repair the blocked hole.
<u>Inlet Valve</u> 1. Does water fills even though it is not energized (power is off)?	Water fills.	Defect of the inlet valve.	Change the inlet valve.
<u>Controller</u> 1. Does water fill immediately after the power switch turns on before pushing the start/pause button.		Short circuit of the triac of the controller.	Change the controller.

¡ á Pulsator doesn't rotate normally.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Pulsator rotates at one direction.</u>			
1. The Pulsator rotates normally at the beginning of wash cycle, but is it not rotate at clockwise direction (locked) after some wash cycles though there is motor-working sound?	Clockwise rotation locked.	Unusual operation.	Turn the power off and on again then that symptom disappears. Explain "Don't run wash only continuously".
2. In the case the pulsator doesn't rotates either clockwise or counterclockwise from the beginning of wash cycle:			
1) Check resistance of the wash motor if there is no motor-working sound.	Resistance is normal.	Defect of controller or poor contact of connectors of motor leads.	Change the controller if there are no contact defects in the leads of the motor.
2) Check belt tension & whether the clutch rotates normally if there is motor-working sound.	V-belt is loose.	Loose the belt.	Adjust belt tension by changing motor fixing location and change the belt if it is impossible to adjust belt tension.
	Clutch locked.	Defect of the clutch.	Change the clutch if the clutch pulley is locked when making it rotated clockwise and counterclockwise by hand.
3. The pulsator doesn't rotate at both directions.			
1) Check whether motor rotates at both directions if there is motor-working sound when it's energized.	Motor rotates at both directions.	Loose the belt.	Adjust belt tension or change the belt if it is impossible to adjust.
		The plusator locked.	Remove cause locking the pulsator
		Defect of the clutch.	Change the clutch.
	Motor doesn't rotates at both directions.	Defect of the capacitor.(check the capacitor's capacitance)	Change the motor if the motor is locked when having its shaft rotated by hand.
		Defect of the motor.	Change the capacitor if there is no contact defect in capacitor's lead
2) Check resistance of the motor if there is no motor-working sound.	¡ ÅØ	Motor coil is open.	Change the motor.
	Normal resistance.	Contact defect of the leads.	Remove the causes.


¡ á Pulsator doesn't rotate normally.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
4. Pulsator weakly rotates. 1) Check voltage at the power outlet where the washer is plugged into.	Less than 85% of rating.	Lower voltage.	Explain the causes and a transformer should be used if necessary.
2) Check capacitance of the capacitor.	Indicating needle rises and immediately indicates ¡ ¨	Capacitor is normal.	
	The needle is stopped after it is raised.	Lack of capacitance of the capacitor.	Change the capacitor.
	The needle doesn't move.	Capacitor is fully discharged.	Change the capacitor.

¡ á Water does not drain.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Drain Pump</u> 1. Check whether there is drain pump working sound.	There is pump working sound.	Drain pump is blocked by foreign objects.	Disassemble the drain pump cap and remove the foreign objects in the pump casing.
2. Check resistance between terminals if there is no working sound of the drain pump.	¡ ¯	It's coil is open.	Change the drain pump.
3. Check connection parts of the leads if there is no working sound and its resistance is normal.	Defect in connection part.	Defect in connection part.	Repair defected connection.
	Connection part has no defects.	Defect of the controller.	Change the controller.
<u>Drain Hose</u> 1. Check whether the drain hose is put in a narrow space and kinked.	Kinked.	Defect of installation.	Reinstall so that it should not be kinked.
2. Check whether the internal drain rubber asm is bent.(For Non-pump model)	Bent.	Defect of the drain rubber asm.	Change the drain rubber asm.
3. Check whether the end of the drain hose submerged into water or higher than required. (For non-pump model)	Submerged or higher than required.	Defect of installation.	Re-install so that it can't be submerged or not higher than required.

Water does not drain.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
4. Check whether the drain hose is blocked by foreign objects. It may happen in case of the hose is a little kinked.	Blocked.	Blocked hose.	Remove the objects and reinstall so that it can't be kinked.
<u>PV Case</u> <u>(for Non-Pump Model only)</u> 1. Check whether the PV asm is blocked by foreign objects.	Blocked.		Separate the drain motor from the PV link, disassemble PV cover and then remove the foreign objects within PV case. Check the washer works normally after repair and reassembling them. (PV link & drain motor lever should be assembled accurately.)
<u>Drain Motor</u> <u>(For Non-Pump Model only)</u> 1. Check resistance of the drain motor if it can not pull the PV link.		Drain motor coil is open.	Change the drain motor ; Check the washer works normally after reassembling. (PV link & drain motor lever should be assembled accurately.)
	Resistance is normal.	Contact defect in connection parts or defect of the controller.	Change the controller if there is no defects in the connection parts.

¡ á Water drains though it is not the time of drain.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Drain Motor</u> <u>(for Non-Pump Model only)</u> 1. Check whether the drain motor is normally returned after turning power off. (It is considered normal if the lever of the drain motor is fully pulled out by the PV spring)	Blocked.	Defect of the drain motor.	Change the drain motor.
<u>PV Case</u> 1. If water drains though the drain motor is normally returned, check whether PV asm is blocked by foreign objects or the bellows in the PV asm is deformed.	Blocked.		Remove the objects in the PV asm.
	Bellows deformed.	Defect of PV Bellows.	Change the PV bellows. (The bellows may swell up if it contact petroleum or petrochemical substance because it is made of rubber)
<u>Controller</u> 1. Check whether the drain motor or the drain pump works immediately after power is turned on.	Works.	Defect of the controller(Triac defect)	Change the controller.

- ¡ **In pump model** : The washer proceeds the wash cycle after draining automatically dainty water remained in the drum for 2~3 seconds if water remains in the drum befor pushing the start button

¡ á Drain error happens while water drains normally.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Pressure Switch</u> 1. Check generation frequency of the pressure switch without water.	Less than 26.3 kHz	Defect of the pressure switch.	Change the pressure switch.
	26.3~27.1 kHz	Defect of the controller.	Change the controller.

¡ á Spin extraction is not proceeded.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Motor</u>			
1. In the case that the wash motor does not spin during spin extraction; 1) Check there is motor working sound,or	There is motor working sound.	Defect of the capacitor or Mechanically locked.	Change the capacitor after checking defect of capacitor. check whether the washing clutch or the washing tub is blocked if the motor rotates after removing the V-belt. Check whether the motor is locked if the motor does not rotates even though the V-belt being removed.
2) If there is no motor-working sound; □ Check frequency of the pressure switch, under no load, or	Less than 26.3kHz	Defect of the pressure switch.	Change the pressure switch
□L Check contact defect of the safety switch, defect of connection parts and whether the lid is open if door error is displayed.	The lid is open.	Mistake in use.	Explain" The lid is close during operation"
	Defect of connection part.		Reconnect the connectors.
□Ø Check resistance of the motor.	Contact defect of the safety switch.		Change the safety switch.
	¡ ÅØ	Coil is open.	Change the motor.
<u>Drain Motor/Clutch</u>			
1. In the case the motor rotates but the inner tub does not rotates; 1) Check resistance of the drain motor if the drain motor doesn't work,or	¡ ÅØ Resistance is normal	Coil is open. Defect of connection part or defect of the controller.	Change the drain motor. Change the controller after checking connection parts.
2) Check gap between the PV link and the brake lever if the inner tub does not rotates while the drain motor works.	The clearance is less than 2.5mm or more then 3.5mm	Assembling defect of the drain motor or the clutch	Reassemble the drain motor or the clutch to keep the clearance.
	The gap is normal . (2.5~3.5mm)	Defect of the clutch.	Change the clutch.

¡ á Spining is going on even though the lid is open.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Safety Switch</u> 1. Check resistance between both terminals of the safety switch with the lid open.	0~9 9 0	Contact points of the safety switch are welded.	Change the saftety switch.
	1 1 0	Defect of the controller.	Change the controller.

¡ á Spin basket doesn't reach to full speed(normal rpm)

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Main voltage</u> 1. Check voltage at the power outlet where the washer is plugged into.	Less than 85% of rating	Tool low voltage	Explain the cause and recommend using a transfomerformer if necessary.
<u>Starting Capacitor</u> 1. Check the capacitance of the starting capacitor.	Lack of capacitance	Defect of capacitor	Change the capacitor
<u>Clutch Assembling</u> 1. Check the clearance between the PV link and the brake lever and clearance between the clutch lever and the adjustment bolt.	The clearance is less than 2.5mm or more than 3.5mm		Adjust PV lever bolt and paint it red. Reassemble the drain motor or the clutch.
	Bolt clearance is out of range $1.9 \pm 0.1\text{mm}$	Defect of the clutch	Adjust the bolt clearance.
<u>Blocked by foreign objects</u> 1. Check whether the PV asm, the drain pump & the drain hose are blocked by foreign objects so that it makes water-splashing noise in the tub.			Remove the foreign objects.

¡ á Vibration, Noise or Unbalance Error happens during spin.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Using conditions such as installation etc.</u>			
1. Check whether the washer is leveled. (Check clearance with out tub and out case the left gap is the same as the right and the rear gap is 1.5~2 time bigger than the front gap, between the cabinet and the wash bowl, when it is leveled.)	Not leveled.	Defect of installation	Level the washer.
2. Check whether laundry in the wash bowl is out of balance that can cause severe vibration & noise.	Laundry is unbalanced.		Explain that it is not out of order and it may happen when big & long laundry is washed.
3. Check whether the pulsator doesn't rotate during spin. (To check that, remove the front lid and than run the spin only cycle.)	The pulsator rotates initially then the inner tub rotates.	Defect of the clutch	Change the clutch spring-B or the clutch asm.
<u>Safety Switch</u>			
1. Check whether the lever of the safety switch touches the outer tub if touching noise happens.	The lever is bented.	Defect of the safety switch.	Change the safety switch. Don't repair and reuse it because it creates another problem if it is wrongly repaired.
<u>Damper</u>			
1. Check whether the outer tub cover hit the top cover without load during spin.	Hit	Defect of the damper	Change four dampers simultaneously. (In assembling, check the position to damper asm)
* It is very important to find out what kinds of noise & where comes from to settle noise during spin and accumulately service experiance.			

¡ á Power is not automatically turned off.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Auto Off Switch</u> 1. Check whether there is something to push the power button.	There is something to press it.		Remove it.

¡ á Power is automatically turned off during operation or immediately turning on the power switch.

Where, what & how to check?	Result of Check	Possible Cause	How to repair & settle
<u>Main voltage</u> 1. It is mostly caused by noise from mains or transformer power cut.		Defect in main.	Explain the cause. (It happens specially when a high frequency equipment is a used around the washer or in the case voltage fluctuation is big)
<u>Auto Power Relay or Controller</u> 1. Check whether power is automatically turned off when turning on the power switch after unplugging the power cord from the outlet	Automatically turned off	Mechanical defect of the power relay button.	Change the controller.
2. It would be defect of the controller if power is automatically turned off immediately when turning on the power switch even though there is no defects in the power switch.			Change the controller.