

S/M No. :

Service Manual

Washing Machine

Model: D-NT1011/NT1012/NT1013

✓ Caution

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service Information Center (<http://svc.dwe.co.kr>).

DAEWOO ELECTRONICS CORP.

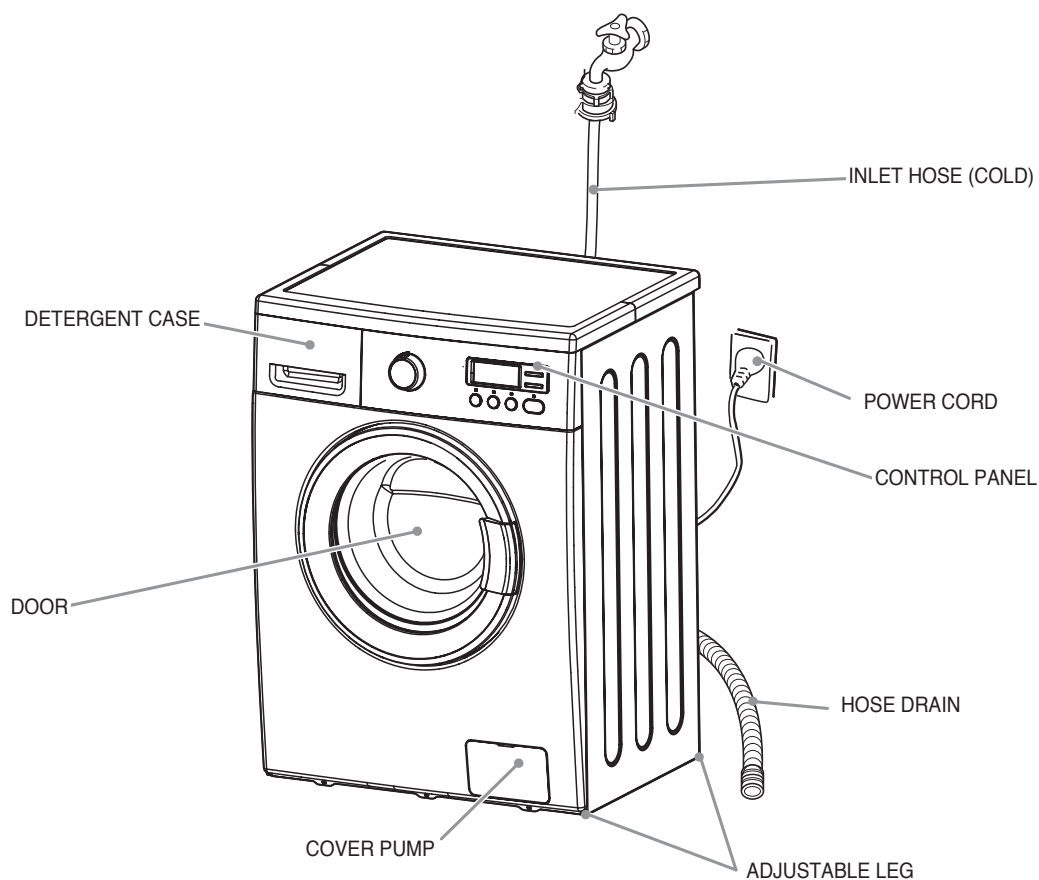
[http : //svc.dwe.co.kr](http://svc.dwe.co.kr)

Jun. 2012

Contents

1. SPECIFICATIONS.....	2
2. INSTALLATION	3
Removing transit bolts	3
Installation place requirement.....	3
Location of washer.....	3
BS Plug Safety Details (For U.K. User).....	4
Connecting inlet hose	4
Installation of drain hose	5
Level adjustment.....	5
3. MAINTENANCE	6
Cleaning your washer	6
Cold condition or Winter storage	6
Cleaning the water inlet filter.	7
Cleaning the drain filter.	7
Cleaning the detergent case.....	8
Cleaning the washing drum.	8
4. DIRECTION FOR DISASSEMBLY	9
5. EXPLODE VIEW AND PARTS LIST	12
6. FUNCTIONS OF THE CONTROL PANEL.....	19
7. FUNCTIONS OF THE CONTROLLER.....	20
8. FUNCTION OF THE CONVENIENT SERVICE.....	23
9. TROUBLESHOOTING GUIDE	24
10. WIRING DIAGRAM	27

1. SPECIFICATIONS



MODEL	D-NT1011/NT1012/NT1013
Power Source	A.C 220~240V / 50Hz
Power Consumption	2000 W
Dimension (mm)	595 x 445 x 850 (WxDxH)
Maximum mass of textile (kg)	7 kg
Unit Weight (kg)	54(Net) / 57(Gross)
Standard Water Consumption	47 ℓ
Spin Speed(RPM)	400 / 600 / 800 / 1000
Operating Water Pressure	0.03MPa ~ 0.8MPa (0.3kgf/cm ² ~ 8kgf/cm ²)
Off Mode Power Consumption	0.5 W
Standby Mode Power Consumption	1.0 W

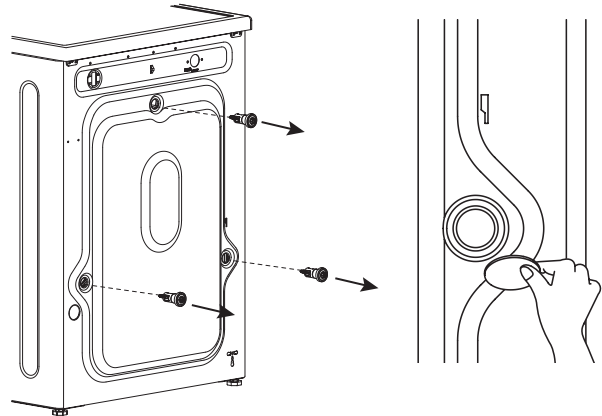
■ Accessories

Inlet hose	Manual	Sticker holder (3EA)	Guide Hose Drain (Option)

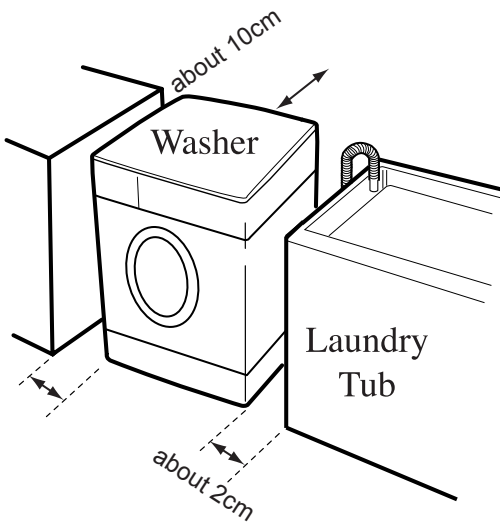
2. INSTALLATION

■ Removing transit bolts

1. Before operating the washer, remove the transit bolts(3ea) along with the rubber.
 - If the bolts are not removed, it may cause heavy vibration, noise and malfunction.
2. Unscrew the 3 bolts with the 10mm hex wrench or spanner or cross-tip screwdriver. Keep the 3 bolts for a later time.
 - When the appliance is transported, transit bolts will be re-used.
3. Close the holes with sticker holders supplied.



■ Installation place requirement



- Level floor :
Allowable slope between the washer and floor is 1°.
- Electric outlet :
Must be with 1meter of either side of the washer.
Do not overload the outlet with more than one appliance.
- Additional clearance
Clearance between the washer and the wall is required.
(rear : about 10cm, left & right : about 2cm)
In case of built-in installation, the clearance between the top of the washer and the under of the work-top is required.
(top : about 2cm)

■ Location of washer

Make sure that you have to do everything necessary for correct installation.

Install the washer on a solid and flat floor, if possible, in a corner of the room and the easily accessible place for an engineer.

- Before placing the washer, if installed on tiles, apply a rubber mat under the adjustable leg.
- The washer must not be installed or stored in rooms below 0°C to avoid any damage from freezing.
- Do not insert pieces of wood, cardboard or similar materials under the adjustable leg to correct any unevenness.
- Do not place laundry products on top of the washer at all times.
- An air circulation around the washer must not be obstructed by carpets, rug etc.

■ BS Plug Safety Details (For U.K. User)

IMPORTANT

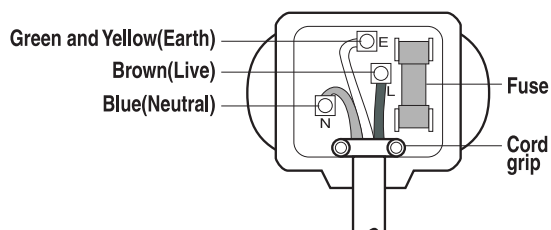
THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

GREEN AND YELLOW : EARTH

BLUE : NEUTRAL

BROWN : LIVE

This appliance must be earthed



As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Green and Yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol $\oplus$ or coloured Green or Green and Yellow.

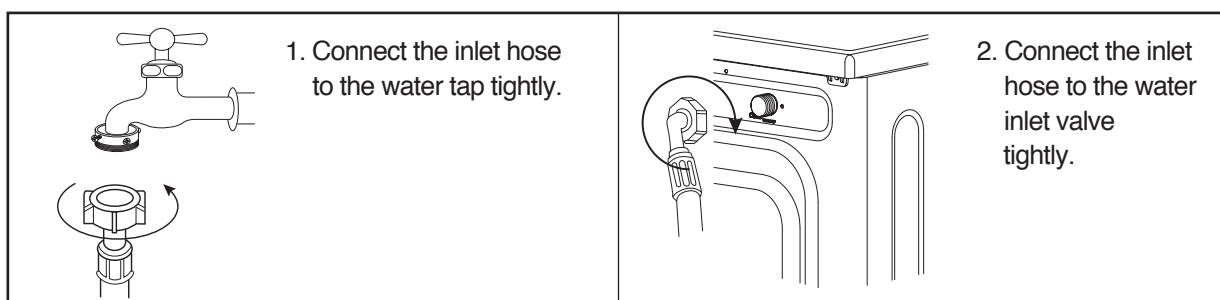
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Red.

If a 13 amp (BS 1363) plug is used, fit a 13amp BS 1362 fuse.

■ Connecting inlet hose

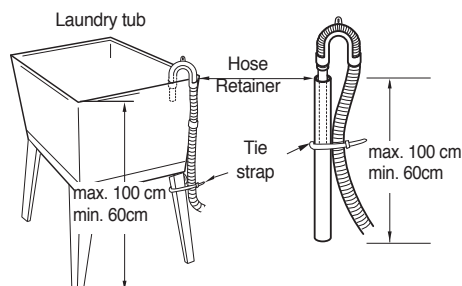
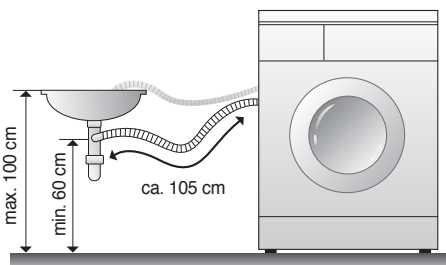
- The washer should be connected to the water mains using new hose set and old hose sets should not be reused.
- In case of only one water inlet valve, connect the inlet hose to the cold water tap.



- Periodically check the tightness of the inlet hose.
- Make sure that the inlet hose is not kinked or folded and that it is not crushed.

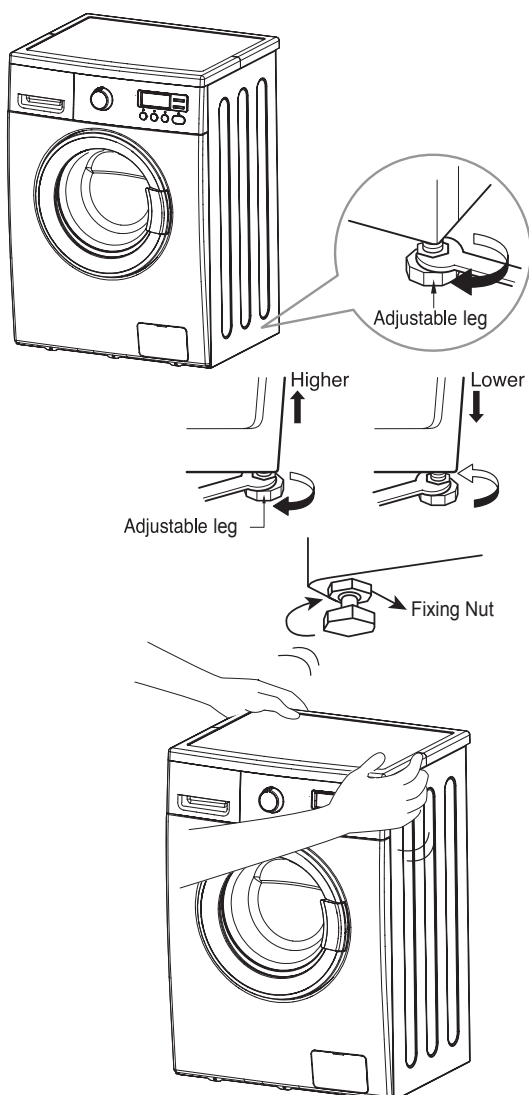
■ Installation of drain hose

- Never forget to install drain hose before operating your washer.
- Open the packing box, and the drain hose is tied at backside of washer.
- If you use the laundry tub, Top of laundry tub must be at least 60cm high and no higher than 100cm from bottom of washer.



- When installing the drain hose to tub(sink), secure it tightly with a string.
- Proper securing of the drain hose will protect the floor from damage due to water leakage.
- When the drain hose is too long, do not force it back into the washer.
This will cause abnormal noise.

■ Level adjustment



- The level adjustment of the washing machine prevents excessive noise and vibration.
- If the floor is uneven, adjust the adjustable leg as the following. (Do not insert pieces of wood etc. under legs.)
- Please check whether there is any gap between four adjustable legs and the floor.
- Turn adjustable legs by the spanner in order to adjust the level of the washing machine.
- Make it sure that there is no swaying of the washing machine and check that the washing machine is even completely. (use a spirit level or the diagonal check.)
- After the level adjustment is finished, turn fixing nuts up tightly so that the washing machine maintains the adjustment.

✳ Diagonal Check

When pushing down the edges of the washing machine top plate diagonally, the machine should not move up and down at all.

(Please, check both of two directions)

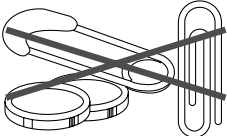
If machine rocks when pushing the machine top plate diagonally, adjust legs again.

3. MAINTENANCE

✱ Before cleaning the washer interior, unplug the electrical power cord to avoid electrical shock hazards.

Proper care of your washer can extend its life. This section explains how to care for your washer properly and safely.

■ Cleaning your washer

Exterior	Interior
• Clean with warm water and a neutral non abrasive household detergent. • Immediately wipe off detergent, bleach and other spills with a soft and damp cloth or sponge. • Occasionally wipe off the outside of the washer to keep its looking like new one. 	• Clean with 250ml of chlorine bleach mixed with 500ml of the detergent. • Open the door of the washer and dry the gasket and door glass. • Run the washer complete cycle with hot water. • If necessary, repeat the process.
Do not put sharp or metal object in your washer, or they can damage the finish. Check all pockets for pins, clips, money, bolts, nuts, etc. Do not lay these objects in your washer after emptying pockets. 	

■ Cold condition or Winter storage

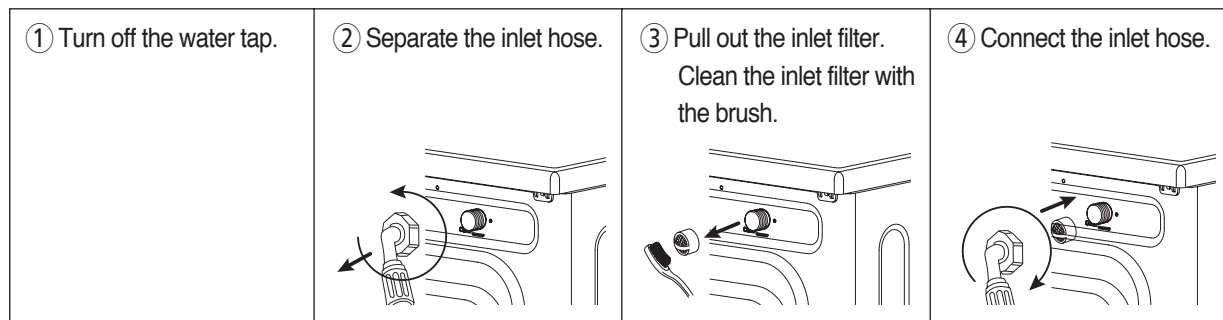
Install and store your washer where it will not freeze. Because some water may stay in the hoses, freezing can damage your washer.

If you store or move your washer during freezing weather, follow these instructions to prevent the damage to the washer.

1. Turn off the water tap.
2. Disconnect inlet hose(s) from water supply and drain the water from hose(s).
3. Plug the power cord and Open the door.
4. Add about 3 ℓ of nontoxic antifreeze into the drum. Close the door.
5. Run the washer on spin or drain cycle to drain out all water.
6. Unplug the power cord and open the door to dry the drum interior. Close the door.
7. Dry excessive water of the detergent case.
8. To remove the remaining antifreeze, run the washer on complete cycle using the detergent and without the laundry.

■ Cleaning the water inlet filter.

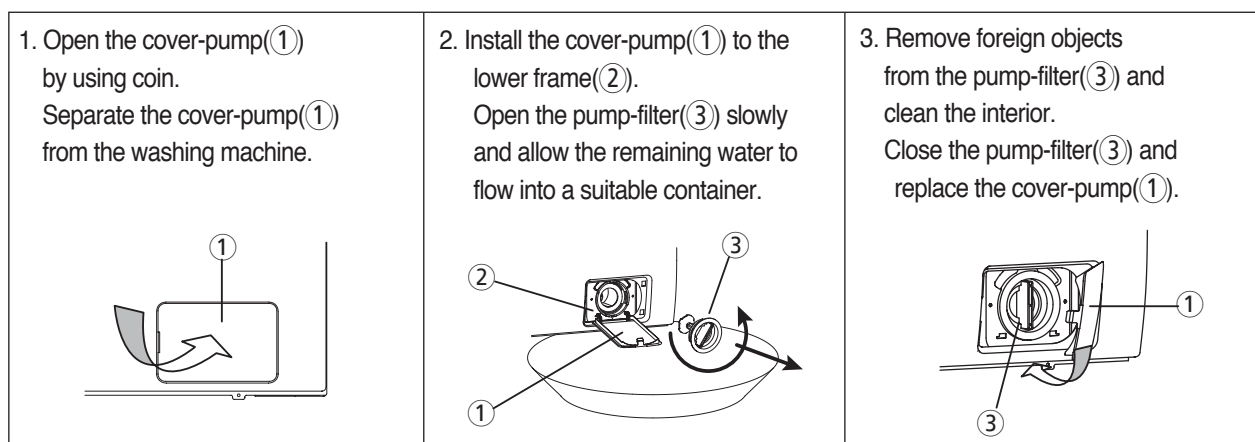
- “IE” error message (refer to troubleshooting guide) will display when the water does not enter the detergent case.
- If your water is very hard or contains traces of lime deposit, the water inlet filter may become clogged.
And the water leaks from the water inlet.
- It is therefore a good idea to clean it from time to time.



■ Cleaning the drain filter.

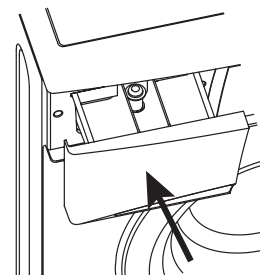
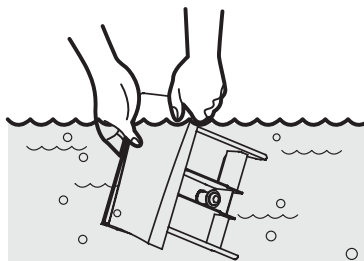
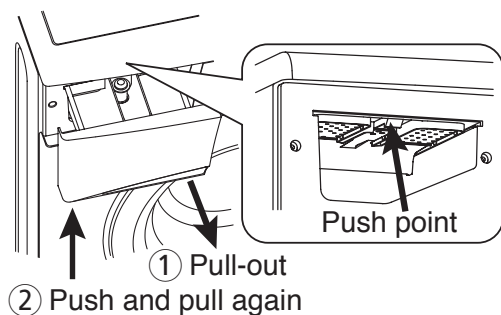
- This drain filter is used to screen the foreign stuffs such as threads, coins, pins, buttons etc..
- If the drain filter is not cleaned at proper time(every 10 times of use), drain problem could be caused.

CAUTION : Be careful when draining if the water is hot.

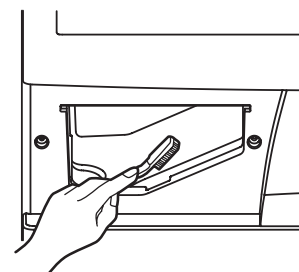


■ Cleaning the detergent case.

- In case of residual detergents or fabric softeners have accumulated ;
 - It should be cleaned with a jet of running water.
 - If necessary, it can be removed completely from the washing machine.



- Detergents can be also accumulate the inside cavity.
In this case, the inside cavity should be cleaned with a brush.
- After cleaning, replace the detergent case and run Rinse cycle without laundry.



■ Cleaning the washing drum.

- If you live in a hard-water area, the limescale may be accumulated in the place where it cannot be seen.
(So, it is not easily removed.)
- The successive accumulation of the scale clogs the washer.
- Although the washing drum is made of stainless steel, specks of rust can be caused by small metal articles (paper clips, safety pins) which have been left in the drum.
- The washing drum should be cleaned from time to time.
- If you use descaling chemical agents (dyes, bleaches and etc.), make sure they are suitable for washer. (They may contain chemicals that damages your washer.)
- * Remove any spots with a stainless steel cleaning agents. (Do not use steel wool.)

4. DIRECTION FOR DISASSEMBLY

DOOR LOCK SWITCH

- ① Open the door and remove the clamp door as.



- ② Separate the gasket from the cabinet front and remove two screws.



- ③ Remove the door lock switch from the cabinet front .



DRAIN PUMP

- ① Separate the cover pump from the cabinet front and remove screw.



- ② Lay the right-side of the washer on the floor. And separate connectors and hose drain from the pump.



- ③ Remove the hose drain o from the pump.



HEATER AND THERMISTOR

- ① Separate the plate t as from the washer.
(Remove two screws at rear)



- ② Separate the case detergent as and remove two screws from panel f.



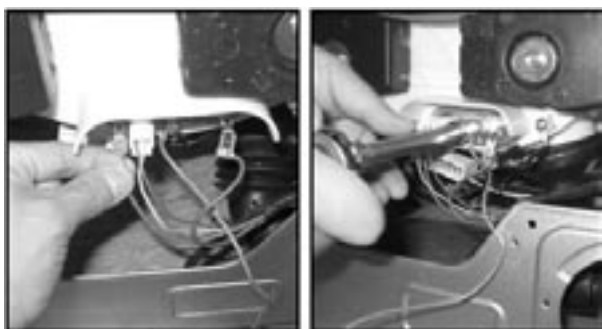
- ③ Separate the panel f as from the washer.



- ④ Separate the cabinet front from the washer.
(Remove the clamp door as and 4 screws)



- ⑤ Separate connectors from the heater and remove the nut by using a box wrench.



- ⑥ Remove the earth terminal and loosen the nut by using a box wrench.



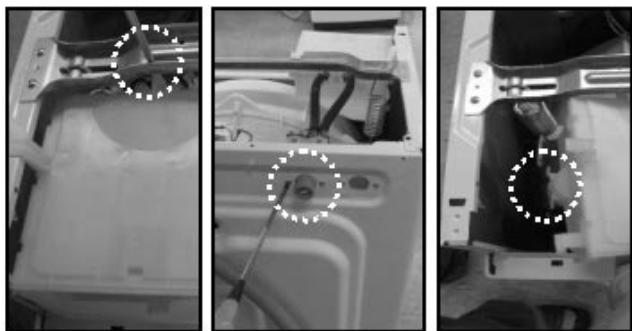
- ⑦ Pull out the heater from the tub.



UNIVERSAL MOTOR

Firstly, you have to do from ① to ⑤ of HEATER AND THERMISTOR DISASSEMBLY.

- ① Separate the box inlet as from the washer.
(Remove screws and hose inlet)



- ② Remove the screw of the motor connector.
And separate the connector from the tub.



- ③ Separate the hose air from the sensor pressure.



- ④ Lay the front-side of washer on the floor.
And remove four screws.



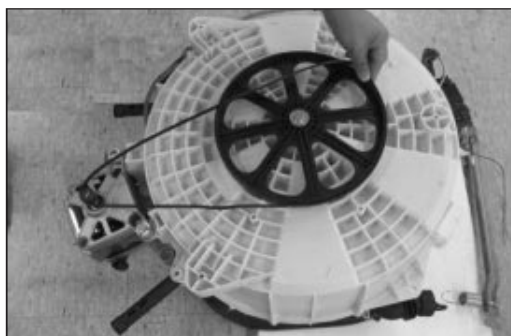
- ⑤ Separate two dampers and the hose drain.



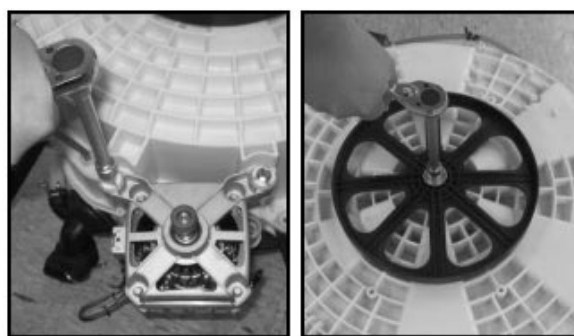
- ⑥ Lift up the cabinet as.



- ⑦ Separate the belt.

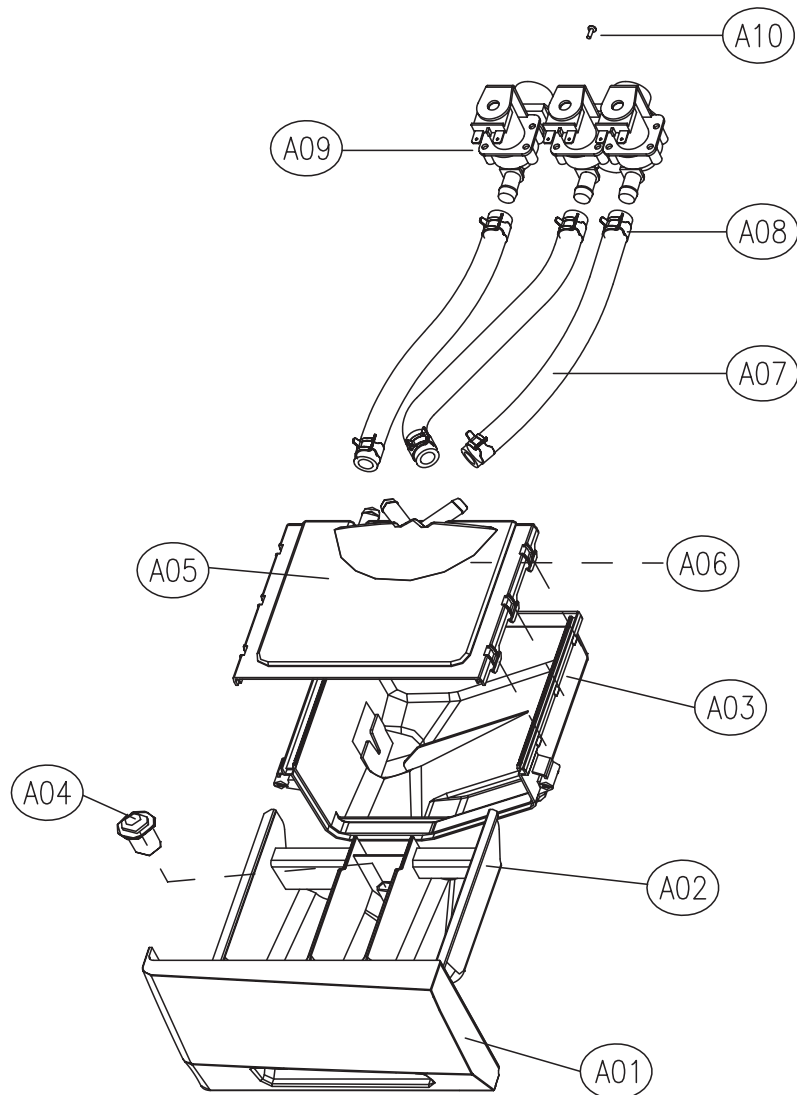


- ⑧ Remove two screws from the motor and remove the screw from the drum using a box wrench.



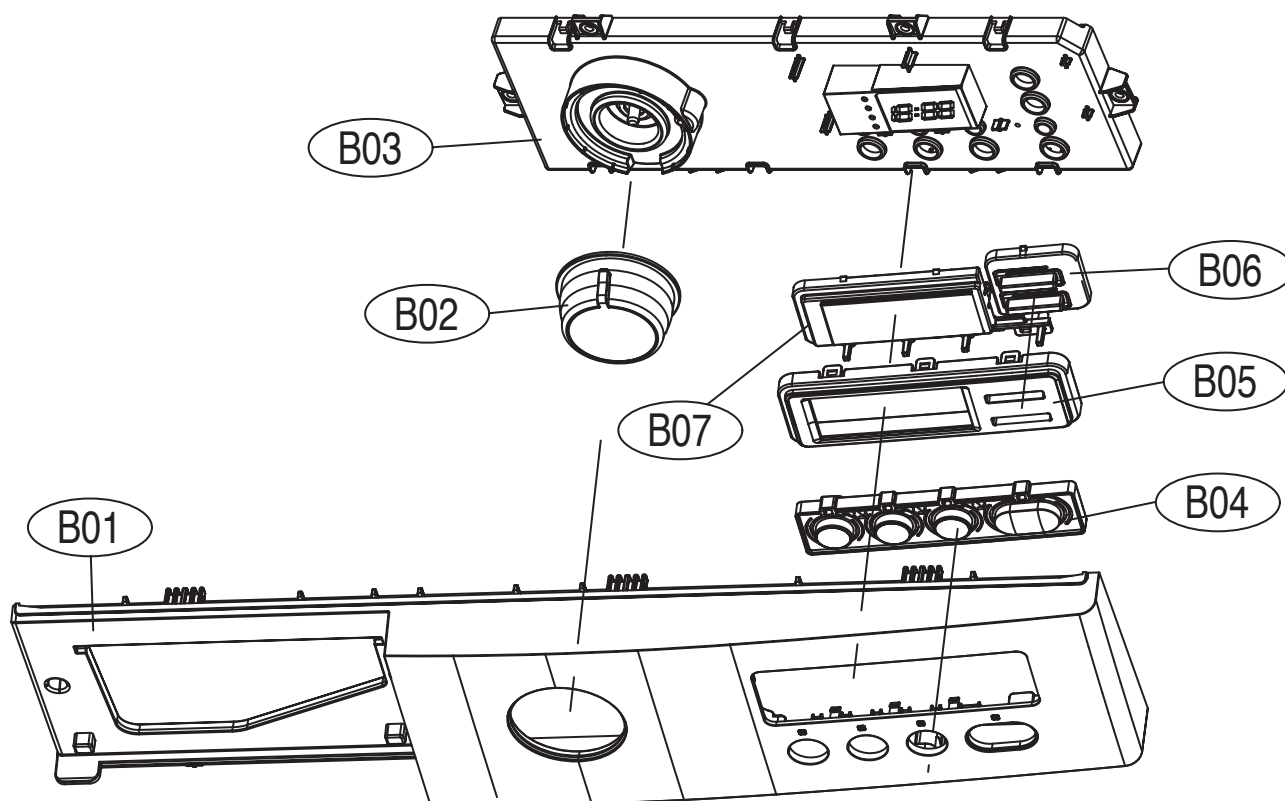
5. EXPLODE VIEW AND PARTS LIST

■ BOX INLET AS



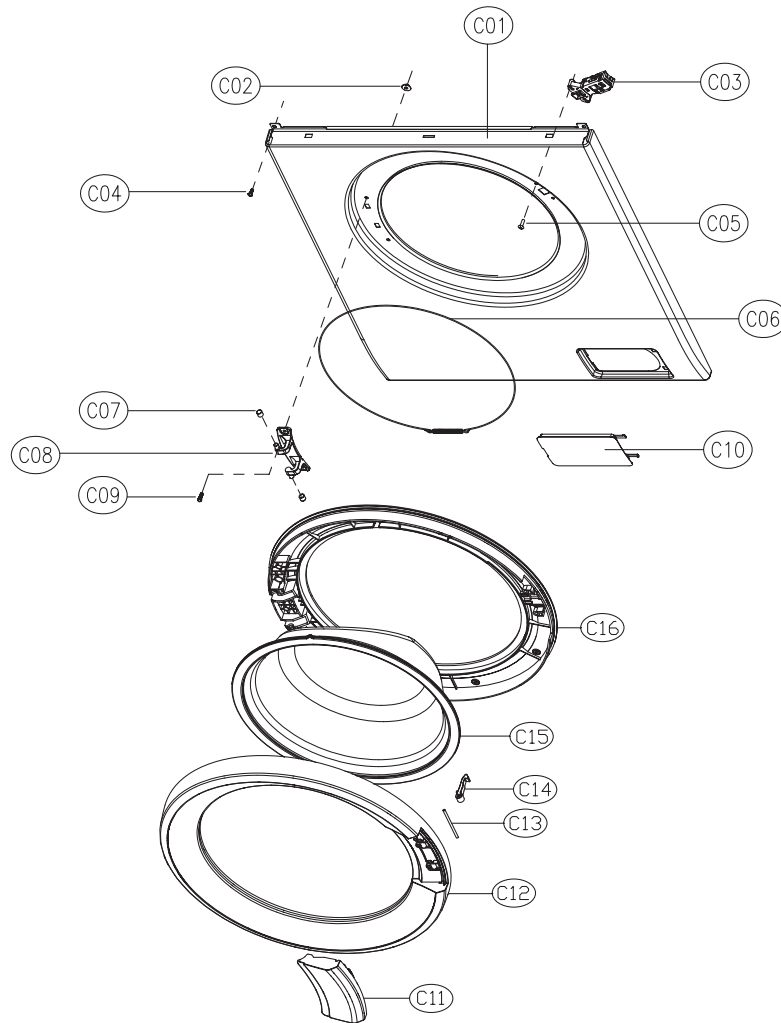
No.	PART NAME	PART CODE	SPECIFICATION	Q'TY	REMARK
A01	CASE HANDLE	36111T3D00	HIPS, D-NT	1	
A02	CASE DETERGENT	36111T2V00	PP, D-MT	1	
A03	BOX INLET	3617511700	PP	1	
A04	CAP SOFTENER	3610907800	PP	1	
A05	NOZZLE TOP	3618112000	PP	1	
A06	NOZZLE UNDER	3618112100	PP	1	
A07	HOSE WATER SUPPLY	3613270900	EPDM ID9.5 OD14.5	2(3)	0.245
A08	CLAMP HOSE	3611205800	100H, ID=13.8 W=10.0 0.9T	4(6)	
A09	VALVE INLET	3615414900	220-240 2-WAY PP/BRACKET	1	COLD
		3615416820	220-240V.VDE.BITRON.329/349 2WAY	1	COLD(EU)
		3615414800	220-240V 1-WAY HOT PP	1	HOT(OPTION)
A10	SCREW TAPPING	7272400811	TT3 TRS 4x8 MFZN	2(4)	

■ PANEL FRONT AS



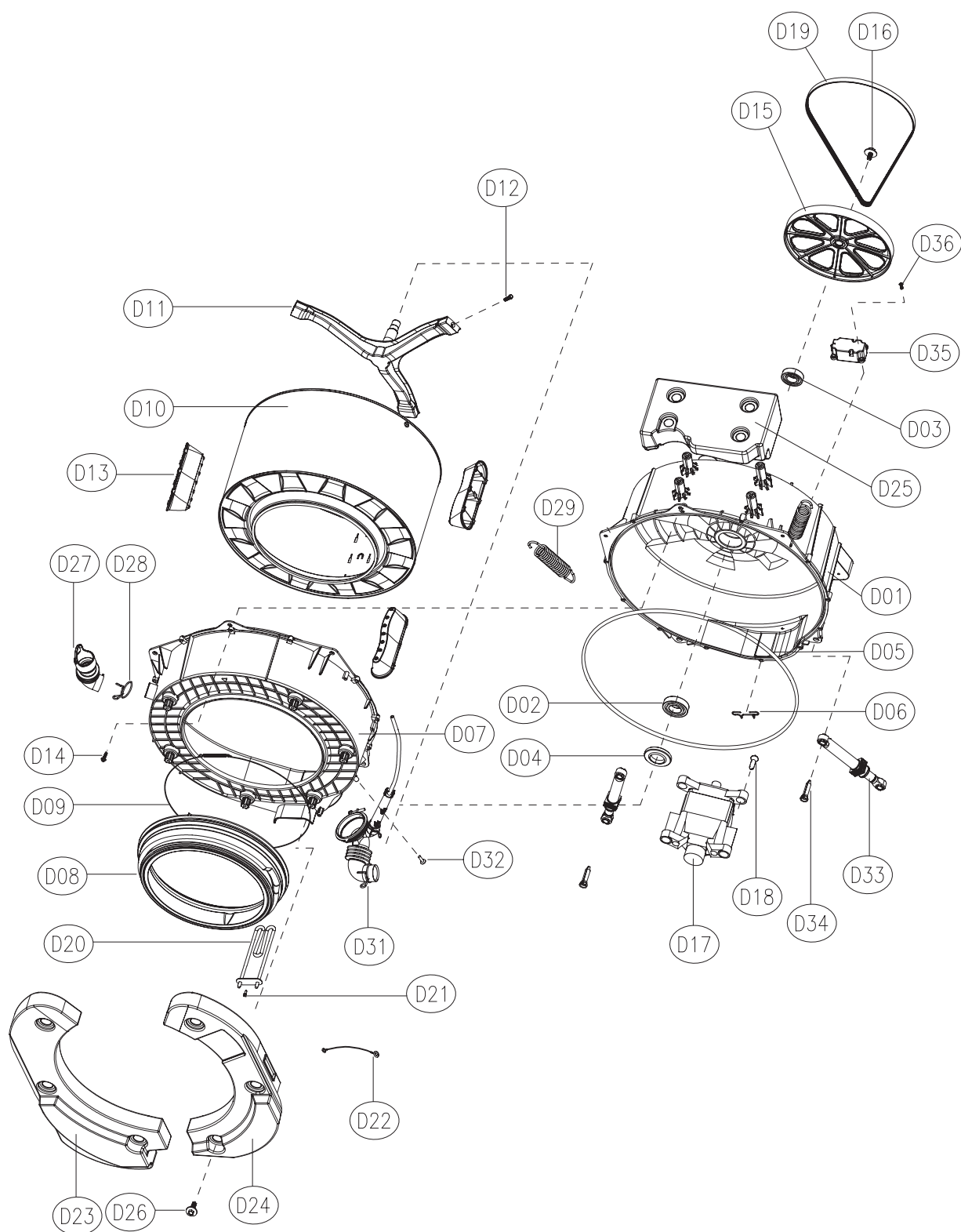
No.	PART NAME	PART CODE	SPECIFICATION	Q'TY	REMARK
B01	PANEL F	36142T4C00	HIPS	1	
B02	KNOB DIAL O	3616649800	ABS	1	
	KNOB DIAL I	3616649900	ABS	1	
B03	PCB AS	PRPSSWP010	BB,HOT,N-VDE	1	
		PRPSSWP011	NON BB,COLD,N-VDE	1	
		PRPSSWP012	BB,COLD,N-VDE	1	
		PRPSSWP013	NON BB,HOT,N-VDE	1	
		PRPSSWP015	BB,HOT,VDE	1	
		PRPSSWP016	NON BB,COLD,VDE	1	
		PRPSSWP017	BB,COLD,VDE	1	
		PRPSSWP018	NON BB,HOT,VDE	1	
B04	BUTTON FUNCTION	3616649700	ABS	1	
B05	DECORATOR WINDOW	36116DWJ00	ABS	1	
B06	BUTTON RESERVE	3616649600	ABS	1	
B07	WINDOW DISPLAY	3615512500	TR-ABS	1	

■ CABINET FRONT AS



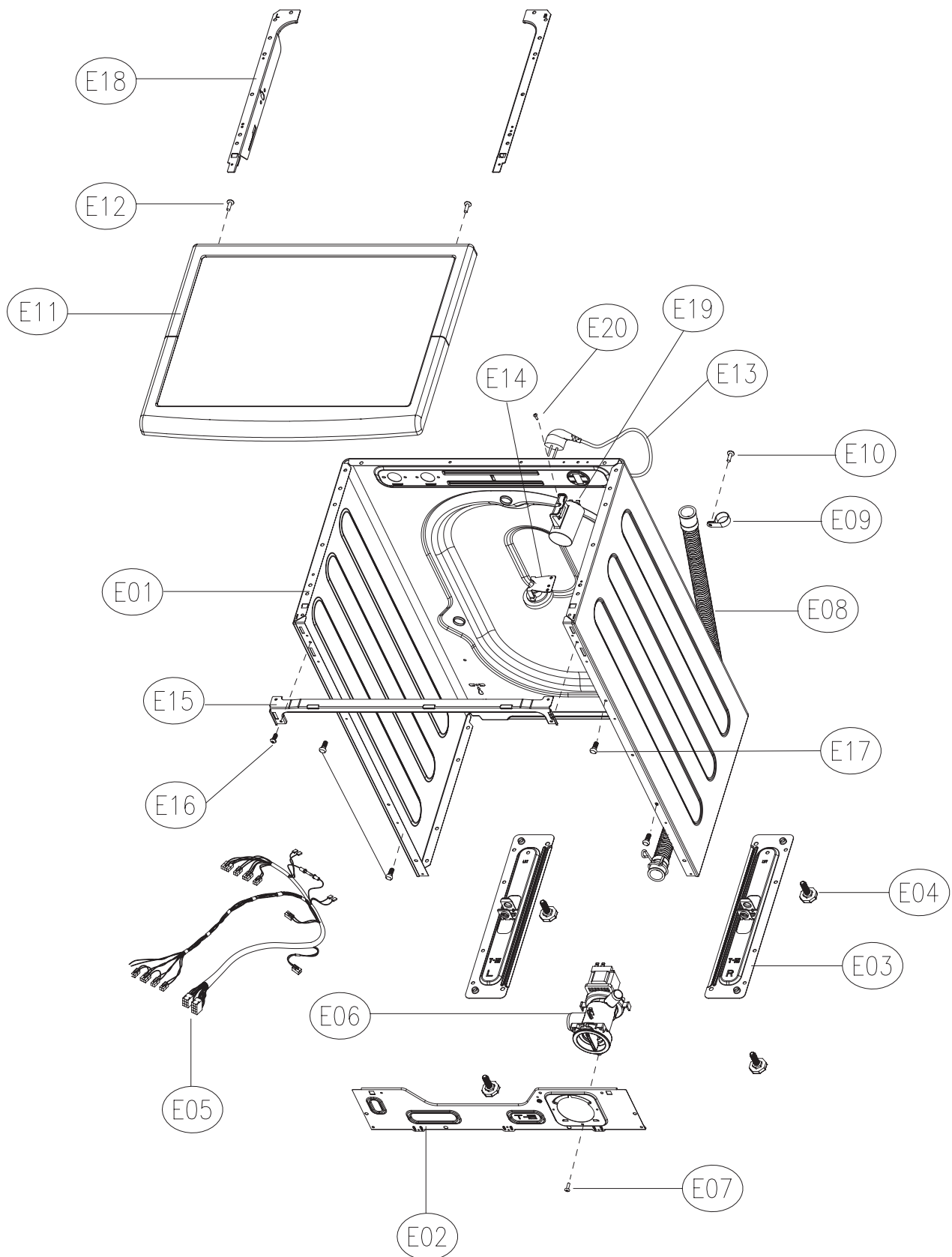
No.	PART NAME	PART CODE	SPECIFICATION	Q'TY	REMARK
C01	CABINET *F	361081WD00	SECD T0.7 , D-NT1011'S	1	
C02	NUT HEX	7S627W50X1	NUT FLANGE M5X0.8P MFZN	2	
C03	SWITCH DOOR LOCK	3619047100	DL-LC.BITRON_3P/KM,DM CONCORE 250V 16A BI-METAL	1	
C04	SCREW TAPPING	3616029950	TTS"S" HEX F/L 4*8	5	
C05	SCREW TAPPING	7122401408	T2S TRS 4X14 SUS,STS	2	
C06	CLAMP DOOR AS	3611204810	HSW3, D1.4, GS, M/F	1	
C07	CAP HINGE DOOR	3610916500	POM	2	
C08	HINGE DOOR	3612904600	ALDC , D-NT1011'S	1	
C09	SCREW TAPPING	3616051229	STS430 F/L BOLT(SE) 5*12	2	
C10	COVER PUMP FILTER	3611433300	HIPS, D-NT1011'S	1	
C11	HANDLE DOOR	3612614600	ABS, D-NT1011'S	1	
C12	FRAME DOOR *O	36122WD400	ABS, D-NT1011'S	1	
C13	PIN HANDLE	3618210600	SUS304, D3, L60	1	
C14	HOOK DOOR	3613101210	ZNDC 5.5K	1	
C15	DOOR GLASS	361A11070T	GLASS PI300, M,F	1	
C16	FRAME DOOR *I	36122WD300	PP, D-NT1011'S	1	

■ TUB AS



No.	PART NAME	PART CODE	SPECIFICATION	Q'TY	REMARK
D01	TUB REAR AS	3618829900	TUB REAR(FRPP) + BEARING HOUSING(ALDC)	1	
		3618829901	TUB REAR(FRPP) + BEARING HOUSING(ALDC)	1	FRPP D-MU103's change core
D02	BEARING INNER	3616304700	6205ZZ SHENS	1	
D03	BEARING OUTER	3616304800	6204ZZ SHENS	1	
D04	WATER SEAL	361A600300	NBR	1	
D05	GASKET TUB	3612324100	PI=4.5, L=1650, EPDM	1	
D06	FIXTURE HEATER	3612009400	SUS, PI=2	1	
D07	TUB FRONT	3618829600	FRPP	1	
D08	GASKET	3612323500	EPDM	1	
D09	CLAMP GASKET AS	3611204520	HSW3	1	
D10	DRUM SUB AS	3617010400	SUS T=0.4	1	
D11	SPIDER AS	361A301000	SPIDER(ALDC-8) + SHAFT(SM45C)	1	
D12	SPECIAL BOLT	3616063000	STS430 M6*21 SI-LOCK	3	
D13	LIFTER WASH	361A401110	NANO	3	
D14	SPECIAL SCREW(TUB)	3616062700	SWRCH18A 5.6*30	12	
D15	PULLEY	3618433210	PA6+GF30%, SERRATION	1	
		3618433201	(ALDC12)		
D16	SPECIAL BOLT AS(PULLEY)	3616063100	SWRCH10A M8*22 PW SI-LOCK	1	
D17	UNIT MOTOR UNIVERSAL	36189L5H00	SOYEA 2POLES 38T	1	
		36189L5H10	G&J MU10 NEW-CORE 220V 2POLES 38T CL.B,AL	1	
D18	SPECIAL SCREW(MOTOR)	3616062800	SWRCH18A 7.4*25.5	2	
D19	BELT V	3616591300	GATES 3PJ1134 BUTADIENE RUBBER	1	
D20	HEATER WASH	3612802450	VDE 220V 1.8KW IRCA & HEADWAY(TERMINAL)	1	
		3612802460	VDE 230V 1.8KW IRCA & HEADWAY(TERMINAL)	1	
		3612802470	VDE 240V 1.8KW IRCA & HEADWAY(TERMINAL)	1	
D21	THERMISTOR WASH	361AAAAB10	R25=1.704KΩ, R80=11.981KΩ	1	
D22	HARNESS EARTH	3612794450	L=180	1	
D23	BALANCER WEIGHT L	3616109600	PP, INSERT 6.5KG	1	
D24	BALANCER WEIGHT R	3616109500	PP, INSERT 5KG	1	
D25	BALANCER WEIGHT TOP	3616108900	PP, INSERT 6.5KG	1	
		3616109400	PP, INSERT 6.5KG	1	
D26	SPECIAL SCREW(BALANCER)	3616062900	SWRCH18A 8*31 PW	6	
D27	HOSE INLET	3613271600	EPDM	1	
D28	CLAMP HOSE I	3611201400	HSW3, D=2.6, MFZN D=38	1	
		3611201401	HSW3,YW,D=2.6,ID=36,W=44.5	1	
D29	SPRING SUSPENSION	3615116100	K=0.39, L=125	2	
D31	HOSE DRAIN AS	3613272300	HOSE DRAIN(EPDM) + AIR TRAP(PP)	1	
			+ HOSE AIR(ID=4.0, OD=8, L=560, EPDM)		
			+ CLAMP AS(ID=81, CIMA)		
			+ CLAMP HOSE(D=26) + CLAMP HOSE I(D=38)		
D32	SCREW TAPPING	7122401411	T2S TRS 4X14 MFZN	1	
		7122401408	T2S TRS 4X14 SUS,STS	1	
D33	DAMPER FRICTION	361A700110	70N AKS	2	
		361A700140	70N CIMA		
D34	DAMPER PIN	361A700200	AKS D=14.5	2	
D35	UNIT BUBBLE PUMP AS	36189L4140	220-240V RP CHUSHION=760	1	
		36189L4160	220-240V DBK-240DF RP CUSHION L=510	1	
D36	SPECIAL SCREW(BUBBLE)	3616007400	T2S TRS 4X10+24	2	

■ **CABINET AS**



No.	PART NAME	PART CODE	SPECIFICATION	Q'TY	REMARK
E01	CABINET	361081WA00	D-MU80 SGCC(GI) 0.7T COLD	1	COLD
		361081WA01	D-MU80 SGCC 0.7T COLD+HOT		COLD+HOT
E02	FRAME LOWER	36122UDR00	SGCC T=0.6	1	
E03	BASE U L	3610394500	SGCC1.2T	1	LEFT
	BASE U R	3610394600	SGCC1.2T	1	RIGHT
E04	LEG ADJUST AS	3617703800	FOOT(BUTYL)+SPECIAL NUT(SCP1)	4	
			+SPECIAL BOLT(10x1.25, 51MM)		
		3617703811	CHINA, FOOT+SPECIAL NUT(M10x1, 25P)		ALTERNATE
E05	HARNESS AS	3612799E01	FULL OPTION	1	
		3612799E02	HOT/NON BUBBLE		
		3612799E03	NON HOT/BUBBLE		
		3612799E04	NON HOT/NON BUBBLE		
		3612799E05	NON EMI/FULL OPTION		
		3612799E06	NON EMI/HOT/NON BUBBLE		
		3612799E07	NON EMI/NON HOT/BUBBLE		
		3612799E08	NON EMI/NON HOT/NON BUBBLE		
E06	UNIT DRAIN PUMP AS	36189L5K10	220-240V, 50Hz, 30W, AL, NO-HOLE	1	
E07	SCREW TAPPING	7112401211	T1 TRS 4*12 MFZN	1	
E08	HOSE DRAIN O AS	361326852T	L=1800, STRAIGHT TYPE, CLAMP PI=27	1	
E09	CLAMP HOSE	3611206410	NYLON, DA-16N, ID21.9 D-MU80	1	
E10	SCREW TAPPING	7122401411	T2S TRS 4X14 MFZN	1	
E11	PLATE TOP AS	3614540710	D-NT1011	1	
E12	SCREW TAPPING	7122401411	T2S TRS 4X14 MFZN	2	
E13	CORD POWER AS	3611339630	EU-2PIN H05VV-F 1.0SQ 250V 16A 1.4M	1	
E14	SENSOR PRESSURE	3614825320	DL-DW12-H AIR INLET 270 HOOK TYPE	1	
E17	SCREW TAPPING	7122401411	T2S TRS 4x14 MFZN	1	
E15	FRAME UPPER	36122UDT00	SGCC 1.0T	1	
E16	SCREW TAPPING	7122401411	T2S TRS 4X14 MFZN	2	TOP FIX
	(FRAME UPPER FIX)	3616029950	TTSS" HEX F/L 4*8 "	2	FRONT FIX
E18	FRAME TOP L	36122UDP00	SGCC T 1.4	1	
	FRAME TOP R	36122UDQ00	SGCC T 1.4	1	
E19	EMI FILTER	3611910910	EMI FILTER DPC DFC-2712D-14A44GW	1	
E20	SCREW TAPPING	7122401411	T2S TRS 4x14 MFZN	1	

6. FUNCTIONS OF THE CONTROL PANEL

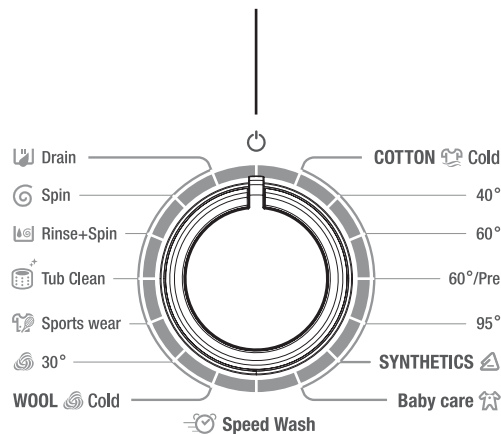
Program selector

For switching the washing machine on and off and for selecting the program.

Can be rotated in both direction.

Even if the program selector rotates while the program is running, the program is not changed (except for off ).

(All program is electronically controlled by PCB)



Spin selector

You can select the spin programs (Spin 400rpm, 600rpm, 800rpm, 1000rpm) by pressing the Program selector.

400rpm of spin velocity is selected automatically with WOOL/WOOL 30°C program in order to protect damage on laundry.

800rpm of spin velocity is selected automatically with COTTON / SYNTHETIC / Baby care / Speed Wash / Tub Clean / Sportswear / Spin / Rinse+Spin programs.

*Warning : If value of unbalance is extremely high, spin speed can't reached that r.p.m of selected by spin selector.

Indicator light

The respective indicator lights up, when the required program segment runs.

Time delay

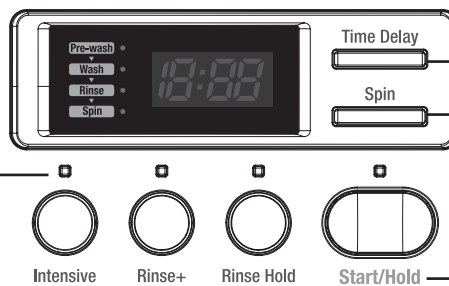
To pre-engage time for washing.

As the button is pressed, the delayed time is repeated as following;

2hours → 3hours → 4hours → ...

→ 10hours → 11hours → max 12hours

This option is enabled with COTTON, SYNTHETIC, Speed Wash, Intensive, Sports wear, Rinse+Spin and Baby care programs.



Button for options

(in addition to the program if required)

Intensive wash Extended washing time.

Rinse + Extra rinse cycle.

Rinse Hold No final spin cycle

- The indicator lamp of the buttons lights up if options are active.
- Canceling options : Press button again.

Start/Hold button

For starting the washing cycle.

(program must have been selected)

Note

The washing time may vary by the amount of laundry, water pressure, water temperature and other washing conditions. If an unbalanced load is detected or if subs removing program operate, the washing time maybe extended. (Maximum increasing time is about 1 hour.)

By turning right the Program Selector, the program is selected in order of

COTTON COLD → COTTON 40°C → COTTON 60°C → COTTON 60°C/Pre → COTTON 95°C → SYNTHETIC → Baby care → Speed Wash → Wool Cold → Wool 30°C → Sports wear → Tub Clean → Rinse+Spin → Spin → Drain → OFF → COTTON COLD → COTTON 40°C

7. FUNCTIONS OF THE CONTROLLER

■ SEQUENCE CHART

Division		Progress Time	Cotton									
			Cold	40°C		60°C		60°C		PRE95°C		
			small	small	low	small	low	small	low	small	low	
PREWASH	Sensing	20sec.										
	Water Supply	2min.						■	■			
	Pre Wash	10min.										
		8min.						■	■			
	drain	1min.						■	■			
	B-Spin	2min.						■	■			
	Middle Spin	3min.						■	■			
WASH	Sensing	20sec.	■	■	■	■	■	■	■	■	■	
	Water Supply	2min.	■	■	■	■	■	■	■	■	■	
	Wash 1 (Heating)	70min.									■	
		60min.								■	■	
		35min.					■		■	■	■	
		30min.				■	■	■	■	■	■	
		20min.			■	■	■	■	■	■	■	
		15min.	■	■	■	■	■	■	■	■	■	
	Wash 2	83min.										
		33min.										
23min.		■	■	■	■	■	■	■	■	■		
RINSE	Drain	1min.	■	■	■	■	■	■	■	■	■	
	B-Spin	2min.	■	■	■	■	■	■	■	■	■	
	Middle Spin	4min.	■	■	■	■	■	■	■	■	■	
	water supply	2min.	■	■	■	■	■	■	■	■	■	
	Rinse 1	3min.	■	■	■	■	■	■	■	■	■	
	drain	1min.	■	■	■	■	■	■	■	■	■	
	B-Spin	2min.	■	■	■	■	■	■	■	■	■	
	Middle Spin	4min.	■	■	■	■	■	■	■	■	■	
	water supply	2min.	■	■	■	■	■	■	■	■	■	
	Rinse 2	3min.	■	■	■	■	■	■	■	■	■	
	SPIN	Drain	1min.	■	■	■	■	■	■	■	■	■
		B-Spin	2min.	■	■	■	■	■	■	■	■	■
		Middle Spin	4min.	■	■	■	■	■	■	■	■	■
		water supply	2min.	■	■	■	■	■	■	■	■	■
		Rinse 3	3min.	■	■	■	■	■	■	■	■	■
		drain	1min.	■	■	■	■	■	■	■	■	■
		B-Spin	2min.	■	■	■	■	■	■	■	■	■
		Main Spin	7min.	■	■	■	■	■	■	■	■	■
5min.			■	■	■	■	■	■	■	■	■	
3min.			■	■	■	■	■	■	■	■	■	
END	Untangle	2min.	■	■	■	■	■	■	■	■		
End	10sec.	■	■	■	■	■	■	■	■	■		
Total Time			1:13	1:28	1:33	1:43	1:48	1:59	2:04	2:13	2:23	
NOTE		• The washing time may vary by the amount of laundry, water pressure, water temperature and other washing conditions. If an unbalanced load is detected or if suds removing program operate, the washing time maybe extended. (Maximum increasing time is about 1hour.) • The default Spin RPM of courses : Cotton course (800), Synthetic course(800), Woolcourse(400).										

Division		Progress Time	Synthetic	Baby Care	Speed Wash	Wool		Sports wear	Tub Clean	Rinse+ Spin	Spin	Drain
			40°C	95°C	Cold	Cold	30°C	Cold	Cold			
			small	low	low	low	low	small	small			
PRE WASH	Sensing	20sec.										
	Water Supply	2min.		■								
	Pre Wash	10min.										
		8min.		■								
	Drain	1min.		■								
	B-Spin	2min.		■								
	Middle Spin	3min.		■								
WASH	Sensing	20sec.			1min.							
	Water Supply	2min.	■	■	■	■	■	■	■			
	Wash1 (Heating)	60min.		■								
		25min.		■								
		20min.	■	■								
		15min.	■	■								
		10min.	■	■			■					
	Wash2	33min.										
		28min.										
		23min.	■									
		20min.	■	■		■	■	■	■			
		18min.	■	■	3min.	■	■	■	■			
		13min.	■	■	■	■	■	■	■			
RINSE	Drain	1min.	■	■	■	■	■	■	■	■		
	B-Spin	2min.	■	■	■ 1min.	■	■	■	■	■		
	Middle Spin	4min.	■	■	■ 2min.	■	■	■	■	■		
	Water Supply	2min.	■	■	■ 1min.	■	■	■	■	■		
	Rinse 1	3min.	■	■	■ 1min.	■	■	■	■	■		
	Drain	1min.	■	■	■	■	■	■	■			
	B-Spin	2min.	■	■	■ 1min.	■	■	■	■			
	Middle Spin	4min.	■	■	■ 2min.	■	■	■	■			
	Water Supply	2min.	■	■	■ 1min.	■	■	■	■			
	Rinse 2	3min.	■	■	■ 1min.	■	■	■	■			
	Drain	1min.	■	■								
	B-Spin	2min.	■	■								
	MiddleSpin	4min.	■	■								
	Water Supply	2min.	■	■								
	Rinse 3	3min.	■	■								
SPIN	Drain	1min.	■	■	■	■	■	■	■	■	■	■
	BSpin	2min.	■	■	■ 1min.	■	■	■	■	■	■	
	Main Spin	7min.	■	■		■	■	■	■	■	■	
		5min.	■	■		■	■	■	■	■	■	
		3min.	■	■	■ 2min.	■	■	■	■	■	■	
	Untangle	2min.	■	■	■	■	■	■	■	■	■	■
	End	10sec.	■	■	■	■	■	■	■	■	■	■
Total Time			1:33	2:26	22	58	1:08	58	58	24	12	3
NOTE												

Division		Progress Time	COTTON			
			IEC standard course 40°C	IEC standard course 60°C		
P r e W a s h	sensing	20sec.				
	Water Supply	2min.				
	Pre Wash	15min.				
		8min.				
	Drain	1min.				
	BSpin	2min.				
	Middle Spin	3min.				
M a i n W a s h	Sensing	20sec.				
	Water Supply	2min.	■	■		
	No Heating	15min.	■	■		
	Wash1 (Heating)	NO heating time	15min.	15min.		
		35min.		35min.		
		30min.	20min.			
		20min.	■			
		15min.		■		
		10min.	■	■		
	Wash2		71min.	160min.		
		20min.	■	■		
		15min.	■	■		
R i n s e	Drain	1min.	■	■		
	BSpin	2min.	■	■		
	Middle Spin	4min.	■	■		
	Water Supply	2min.	■	■		
	Rinse 1	3min.	■	■		
	Drain	1min.	■	■		
	BSpin	2min.	■	■		
	Middle Spin	4min.	■	■		
	Water Supply	2min.	■	■		
	Rinse 2	3min.	■	■		
	Drain	1min.	■	■		
	BSpin	2min.	■	■		
	Middle Spin	4min.	■	■		
	Water Supply	2min.	■	■		
	Rinse 3	3min.	■	■		
S p i n	Drain	1min.	■	■		
	BSpin	2min.	■	■		
	Main Spin	7min.	17min.	17min.		
		5min.	■	■		
End		3min.	■	■		
	Untangle	2min.	■	■		
	End	10sec.	■	■		
Total Time			2:46	4:30		
NOTE		• Set program at "Cotton 40/60 + tensive+1000rpm" course for test in accordance or in conformity with EN60456 and IEC60456 . This option has longer setting time for washing.				

8. FUNCTION OF THE CONVENIENT SERVICE

■ The test mode of the load movement

You can check the PCB ASS'Y and the condition of each load movement simply.

• The method to test the load movement

- ① Plug the power cord.
- ② Turn the program selector to arbitrary program (except for OFF  position).
(The indicator light of the Start/Hold button is on but not twinkles. If the indicator is twinkles, press the Start/Hold button and turn the program selector to the off.)
- ③ Press the Rinse+ button 3times while press the Intensive button.
- ④ Whenever the Rinse Hold button is pressed, each load movement is occurred as follows;
Door lock close → Hot valve on → Cold valve on → Pre wash valve on → Bubble pump on → Drain pump on

9. TROUBLESHOOTING GUIDE

This washer is equipped with automatic safety function which detects and diagnoses faults at an early stage and copes properly.

When the washer does not operate properly, check the following points.

■ Simply Check Guide

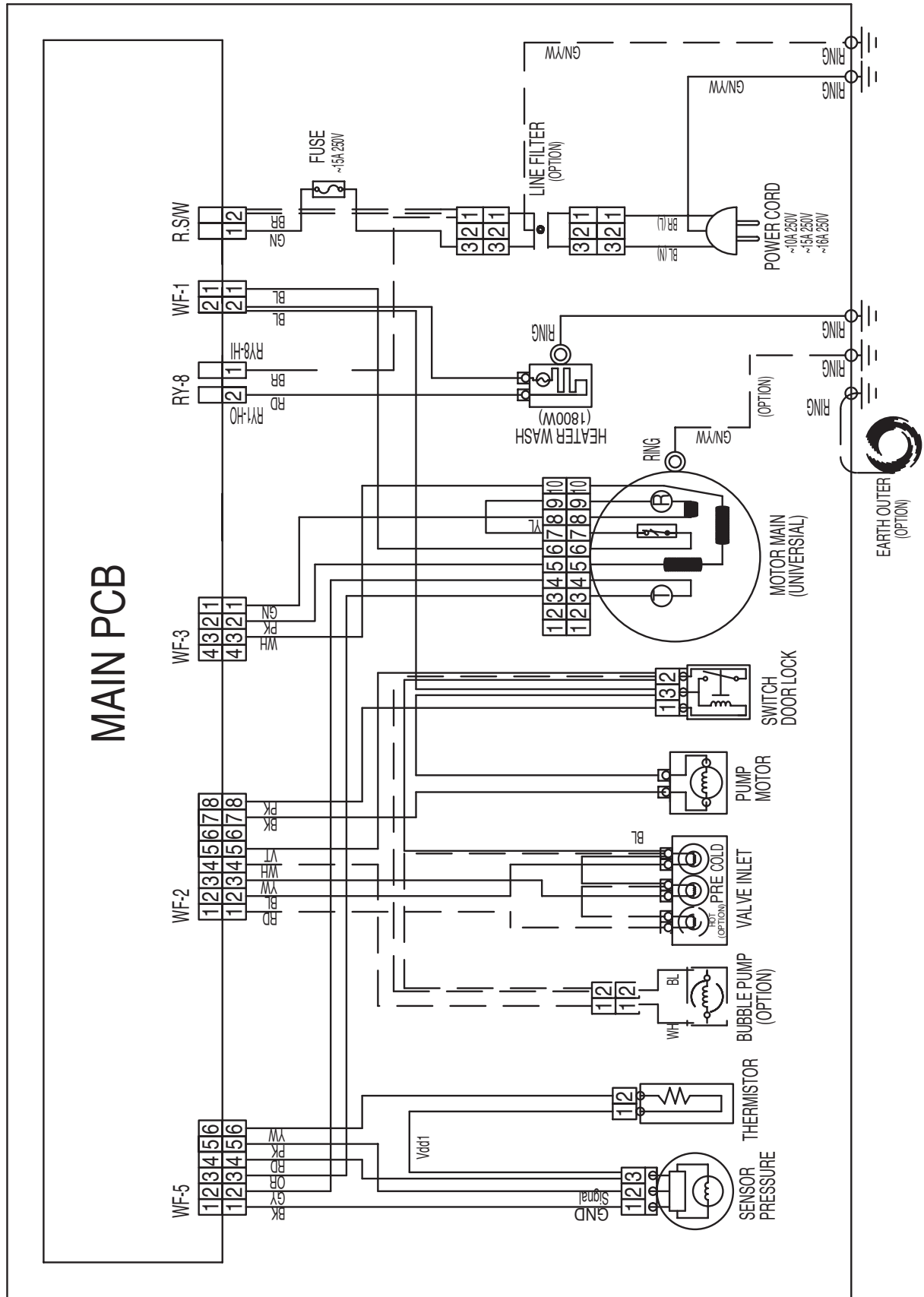
Problem	Cause	Solution
Program dose not start.	Plug is loose or not plugged in.	Insert plug tightly.
	Power failure.	An interrupted program will be resumed when the power return.
	Loading door is not closed.	Check whether laundry is trapped in door. Close the loading door. (a click should be heard)
	Program is not selected.	Select the desired program.
	Start/Hold button is not pressed.	Press the Start/Hold button.
Water dose not enter the washing machine.	Water tap is not turned on.	Turn the water tap on.
	Inlet hose is kinked or folded.	Straighten the inlet hose.
	Filters is blocked in water inlet filter.	Clean the water inlet filter.
Washing machine is not drain.	Drain hose is kinked or clogged.	Straighten and clean the drain hose.
	Pump filter is clogged.	Clean the pump filter.
Washing machine is not spin.	The amount of laundry is too small.	Add the laundry to balance. And repeat the Spin cycle.
	The laundry is unbalanced.	Rearrange the laundry. And repeat the Spin cycle. If articles of heavy clothing (e.g. bath robe) are loaded, washing machine may skip or stop the spin cycle.
Spin result is unsatisfactory.	Drain hose is placed over 1m above the floor.	Place the drain hose under 1m above the floor.
Foam come out of the detergent case.	Too much detergent or unsuitable detergent used.	Repeat the Rinse cycle.
Serious noise and vibration.	Transit bolts are not removed.	Remove the transit bolts.
	Washing machine is installed on uneven floor.	Reinstall washing machine on even floor.
	Washing machine is not leveled.	Adjust the level of washing machine using adjustable legs.

■ DISPLAY ERROR MESSAGE

MESSAGE	ERROR	CAUSE	SOLUTION
IE	WATER INLET ERROR	The water tap is closed.	Open the water tap.
		The filter of the valve inlet is clogged.	Clean the filter of the valve inlet.
		The valve inlet is an inferior product or broke down.	Change the valve inlet.
		The water level sensor (sensor pressure) is an inferior product or broke down.	Change the water level sensor (sensor pressure).
		The drain motor works during water supply.	Change the drain motor.
		The PCB ASS'Y does not check the water level.	Change the PCB ASS'Y.
OE	DRAIN ERROR	The drain hose is kinked or clogged.	Clean and straighten the drain hose.
		The drain motor is an inferior product.	Change the drain motor.
		The valve inlet works during drain.	Change the valve inlet.
		The water level sensor is an inferior product.	Change the water level sensor.
		The PCB ASS'Y does not check the water level.	Change the PCB ASS'Y.
UE	UNBALANCE ERROR	The laundry is concentrated to one side of the drum during spin.	Rearrange the laundry.
LE	DOOR OPEN ERROR	The Start/Hold button is pressed while the door is opened.	Close the door.
		The switch door lock is an inferior product.	Change the switch door lock.
		The PCB ASS'Y does not check the door lock.	Change the PCB ASS'Y.

MESSAGE	ERROR	CAUSE	SOLUTION
E2	OVERFLOW ERROR	The water is supplied continuously due to an inferior valve inlet.	Change the valve inlet.
		The valve inlet is normal, but the water level sensor (sensor pressure) is inferior.	Change the water level sensor (sensor pressure).
		The drain motor dose not work. (The drain motor is an inferior product or broke down.)	Change the drain motor.
E4	LEAKAGE ERROR	Water leaks from the tub or the hose drain.	Check the leak of the tub or the hose drain. Then change the tub or the hose drain.
E7	DIRECTION ERROR	The motor spins into an opposite direction.	Change the PCB ASS'Y or the motor.
		The motor hall IC is an inferior product or broke down.	Change the motor hall IC or the motor.
E8	MOTOR ERROR	The motor is not normally connected.	Check the connector of the motor.
		The motor does not work. (The motor is an inferior product or broke down.)	Change the motor.
E9	SENSOR PRESSURE ERROR	The water level sensor is an inferior product.	Change the water level sensor.
H2	THERMISTOR WASH ERROR	The thermistor wash is an inferior product or broke down.	Change the thermistor wash.
		The thermistor wash is not connected normally.	Check the connector of the thermistor wash.
H4	THERMISTOR WASH OVERHEATING ERROR	The heater worked without the water in the tub.	Check the water level.
		The thermistor wash is an inferior product or broke down.	Change the thermistor wash.
H5	WATER TEMP. ERROR	The water temp. is over 45°C in delicate & wool course. (The thermistor wash is an inferior product or broke down.)	Change the thermistor wash.
H6	HEATER WASH ERROR	The heater wash dose not work. (The water temp. doesn't rise over 2°C during 10min.)	Change the heater wash.
H8	HEATER WASH OVERHEATING ERROR	The heater worked without the water in the tub.	Check the water level and the heater wash.
PFE (E0)	PUMP FILTER ERROR	The drain pump filter is clogged.	Clean the drain pump filter.
		The drain pump does not work during spin.	Change the drain pump.
		The large amount of detergent was used.	Use the proper amount of detergent.
		The drain hose is placed higher than 1m above the floor.	Place the drain hose 1m below the floor.

10. WIRING DIAGRAM





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