DAEWOO ELECTRONICS

Service Manual

Wall-Mounted Front-Load Washer MINI

D-CV701PC**
D-CV701AW**
D-CV701AW**01

Wall-Mounted Front-Load Washer MINI

2012.09

Contents

1. What is Wall-Mounted Front Load Washer MINI?

1. What is the Wall-Mounted Front-Load Washer MINI?

Mini is the world's first ever wall-mounted front-load washer, which is installable in bathroom, pantry, kitchen and various locations.

2. Features of Wall-Mounted Front-Load Washer MINI

Low Noise

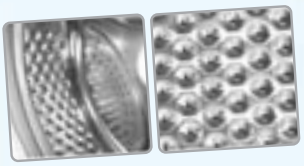
Mini's customized low-noise motor reduces noise during wash, and the 4-layered dustproof pad prevents vibrations to ensure silent washing.

Spoon-Shaped Detergent Container

Containers for detergent and softener are discretely designed to prevent mixture. The spoon-shaped design enables you to apply the proper amount of detergent conveniently.

Star Drum

Star-shaped concave-convex drum prevents damage to fabric to keep clothes fresh.



Transparent Door

Transparent door allows you to view the contents and check laundry process.

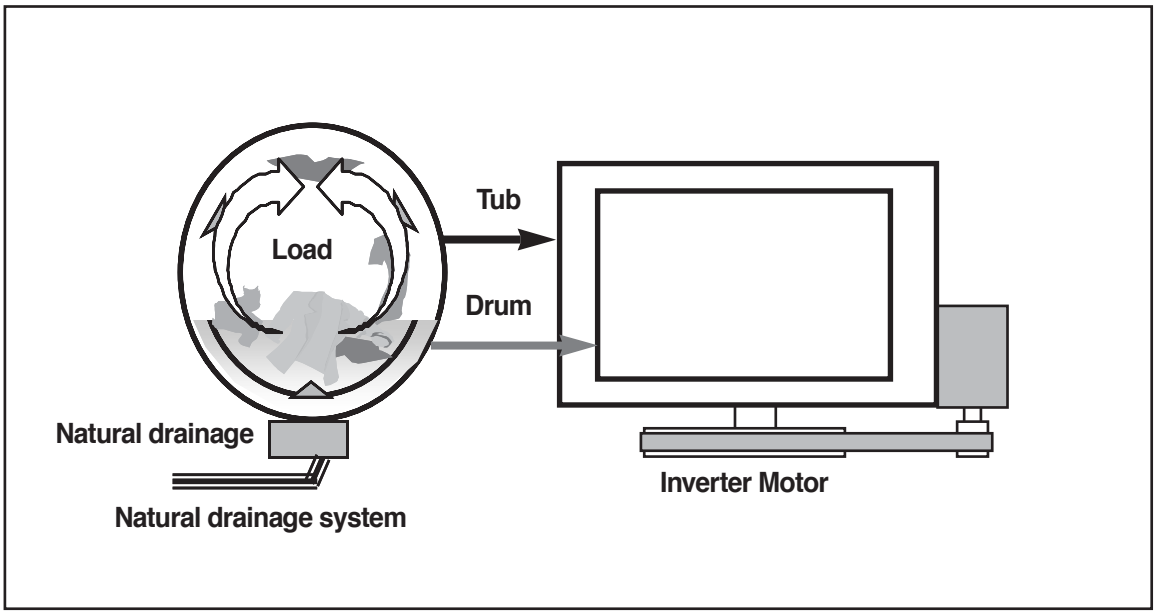
Child Protection

'Button Lock' and 'Door Lock' functions apply to prevent kids from touching buttons and opening doors during wash.

Cleaning Programs

Mini's program features for various cleaning purposes and fabrics.

3. Power Train of Wall-Mounted Front-Load Washer MINI



- Inverter Motor: Transforms electric energy into mechanical energy
- Highly powerful and functional inverter motor rotates the system.

4. Major Features of Wall-Mounted Front-Load Washer MINI

1. Powerful Daily Cleaning
   Mini enables daily washes of towels, shirts, underwear and socks for cleaner home environment.

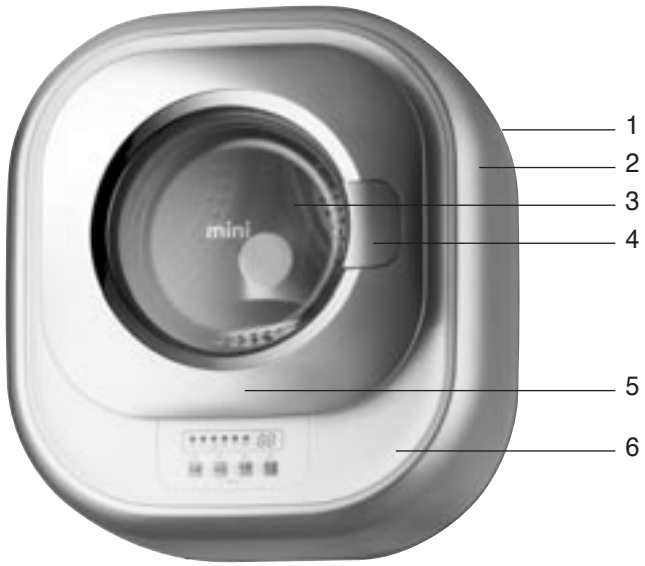
2. 29-Minute Wash
   As the Normal cycle takes only 29 minutes, it speeds up the laundry process and reduces water and power consumption by 64% compared to regular front-load washers.

3. Baby Clothes Cleaning (D-CV701PC**, D-CV701AW**)
   Mini's 'Baby Care' cycle enables a complete steam wash and rinse function to protect sensitive baby skin from irritation.

4. Delicate Cleaning for High-Quality Clothes
   Mini enables daily washes of towels, shirts, underwear and socks for cleaner home environment.

2. Specifications

1. Parts and Components

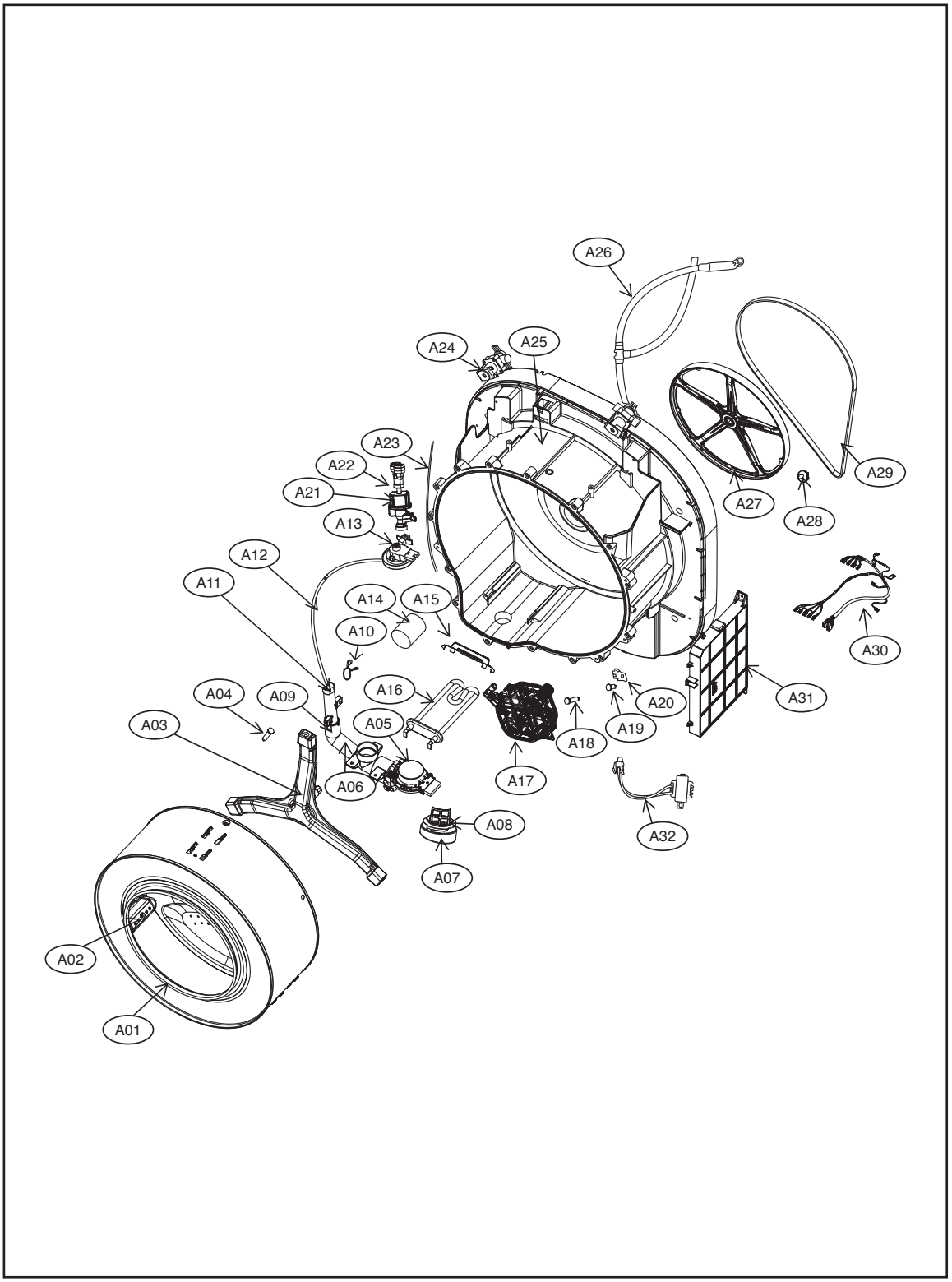


NO	Parts
1	TUB REAR
2	BODY
3	DOOR PROTECTOR
4	DOOR HANDLE
5	DOOR FRAME *O
6	BODY COVER

Category		Specifications	Notes
Dimension		550mmX600mmX292mm(WXHXD)	
Weight		16.5KG	
Standard Volume		28L	
Power		220V, 50/60Hz	
Power Consumption	Wash	100W	D-CV701PC**/701AW**/701AW**01
	Steam	1500W	D-CV701PC**/AW**
Standard Load	Wash	3KG	
	Spin	3KG	
Washer Type		Front Load	
Installation		Mounted on Wall	
Water Pressure		98.1KPA~784KPA (1KGf/cm2~8KGf/CM2)	

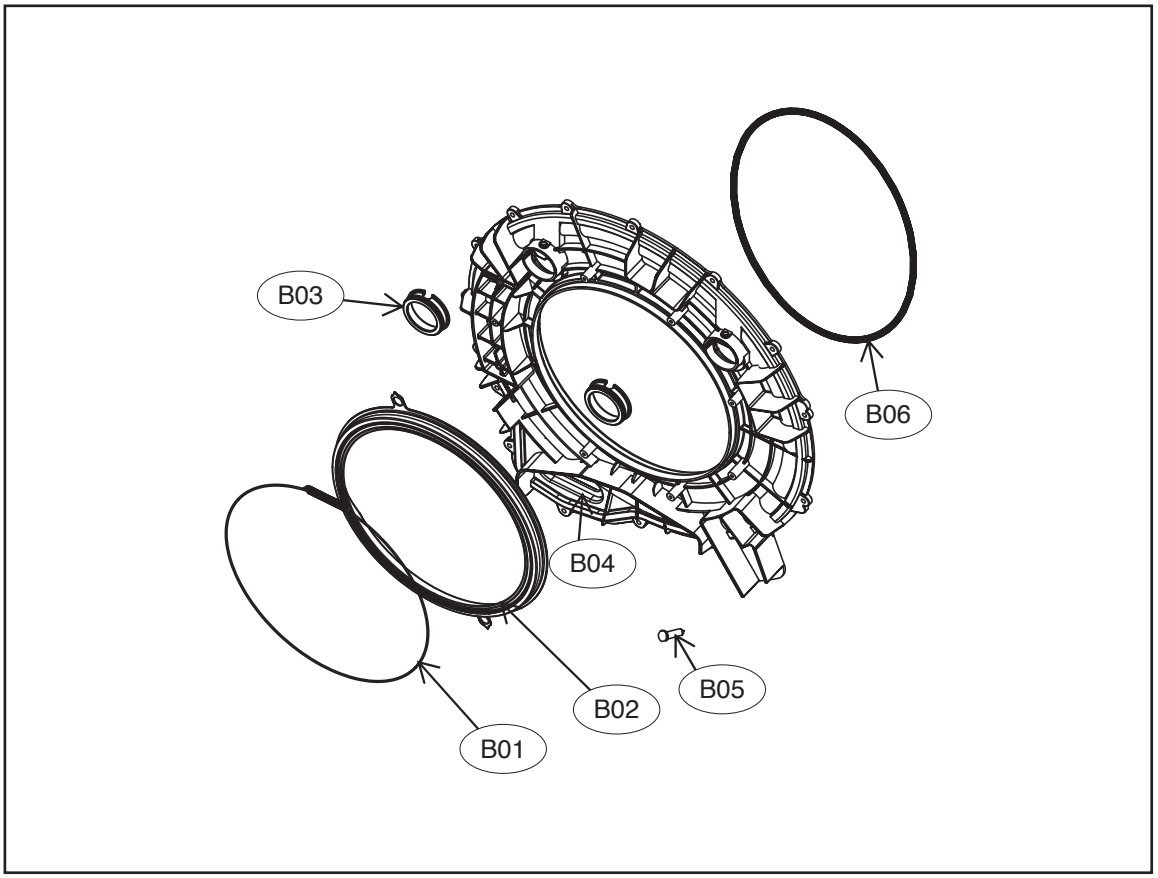
3. Assembly Part List

1. TUB AS



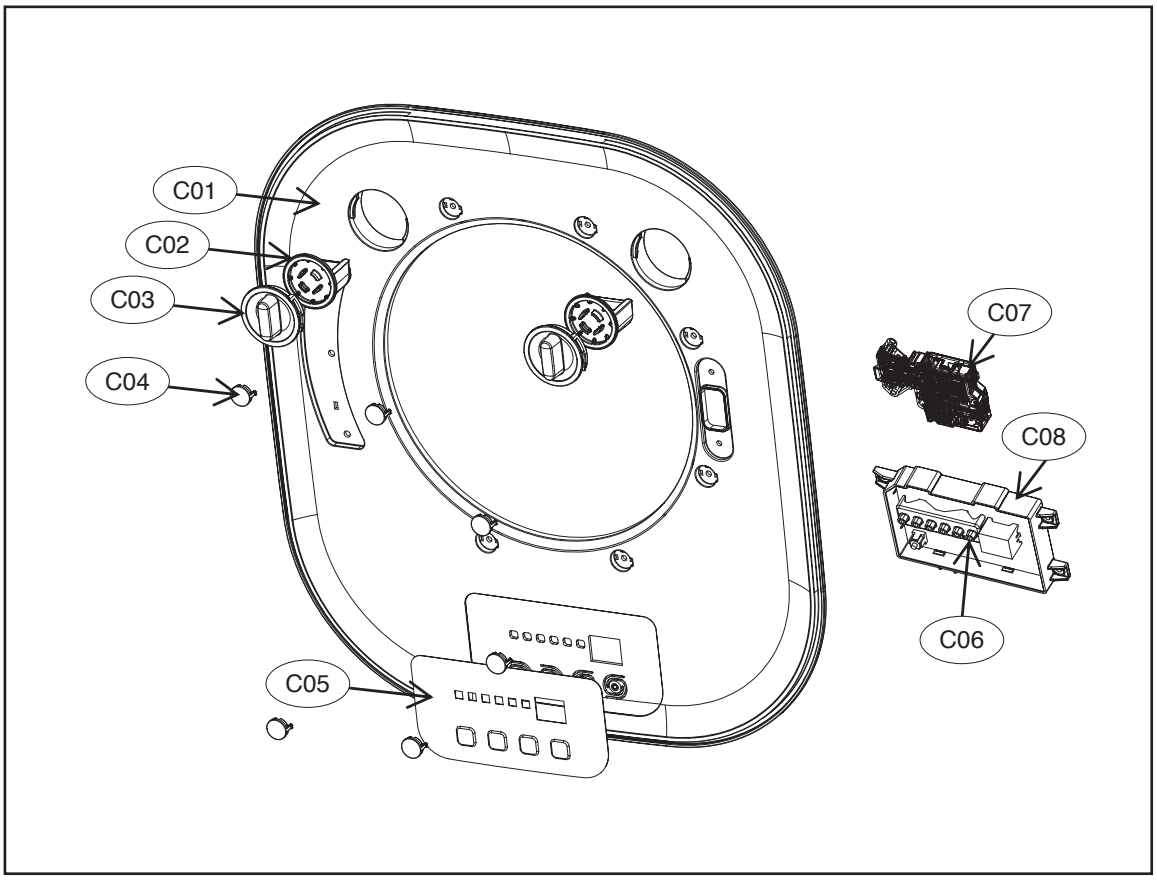
No.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARK
A01	DRUM SUB AS	3617030010	D-M300	1	
A02	LIFTER WASH	361A401900	D-M300, PP	3	
A03	SPIDER AS	361A301610	D-M300	1	
A04	SPECIAL BOLT	3616063000	STS430 M6*21 SI-LOCK	3	
	DRAIN MOTOR AS	3919601110	SAMCO, NEW 220~240V 50/60HZ 5/6RPM PV ASM	1	DRAIN MOTOR ASSMBLY
A05	DRAIN MOTOR	3919601100	SAMCO, 220V 5/6RPM,SSM-16HR	1	
A06	DRAIN HOUSING	36196TC010	D-M300, FRPP, FILTER TYPE	1	
A07	CAP FILTER DRAIN	36196TC050	D-M300, FRPP, FILTER TYPE	1	
A08	PACKING CAP FILTER DRAIN	36196TC060	D-M300, NBR 40	1	
A09	HOSE AIR TRAP	3613276800	D-M300, EPDM	1	
A10	CLAMP HOSE	3611204700	ID27	2	
A11	AIR TRAP	361A500300	D-M300, PP	1	
A12	HOSE AIR	3613276900	D-M300, EPDM ID=4 OD=8, L=455	1	
A13	SENSOR PRESSURE	3614825320	DL-DW12-H AIR INLET 270 HOOK TYPE	1	
A14	EMI FILTER	3611913000	DFC-2712D ,250V 12A,	1	
A15	FIXTURE HEATER	3612007310	SUS 304 0.7T 440X45 1	1	
A16	HEATER WASH	3612804000	220V.140MM.1400W.TERMINAL 1R8A721.IRCA FUSE 2EA	1	
A17	INVERTER MOTOR	36189L8000	DWD200BL, DC 310 V, 125 W, CLASS F	1	
A18	SPECIAL BOLT	3616067000	TRS S/W P/W HEX:5*16 SUS304	4	
A19	SPECIAL SCREW	7S422X4081	TT3 TRS 4X8 SE MFZN	2	
A20	BRACKET EARTH	3610603500	SBHG1 T1.2	1	
A21	VALVE CHECK AS(1/4")	3615418450	D-M300,1/4",POM	1	
A22	Y DIVIDER	3612512900	D-M300, ATWD0404 1/4' DMT	1	
A23	HOSE INLET	3613270980	DFE04 LLDPE ID=4,OD=6	0.575	
A24	VALVE INLET	3615401000	AC 220V/60HZ, SV-11CWB-01,1WAY	2	
A25	TUB REAR SUB AS	3618831620	D-M300. TUB REAR+BEARING HOUSING	1	
	BEARING INNER	3616305900	D-M300,6203ZZ,ID=17,OD=40	1	TUB REAR ASSMBLY
	WATER SEAL	361A600900	D-M300,NBR ID=25,OD=50	1	
	DRAIN HOUSING	36196TC000	FRPP	1	
	BOND	2224050106	218W	0.005	
A26	HOSE VENT AS	3613217940	D-M300 HOSE VENT AS	1	
A27	PULLEY	3618434300	D-M300, ALDC	1	
A28	SPECIAL BOLT AS	3616063110	M8X27 S/W P/W SI-LOCK HEX:13	1	
A29	BELT V	3616591600	D-M300, 4PJ-1020	1	
A30	HARNESS AS	361279C000	D-M301 ,MINI WASH,FULL OPTION	1	
		361279C010	D-M300 ,MINI WASH,NON HEATER	1	
		361279C020	D-M301 ,MINI WASH,FULL OPTION,NON EMI	1	
		361279C030	D-M300, MINI WASH,NON HEATER,NON EMI	1	
A31	MAIN PCB AS	361NPCB942	MINI,V.E,220,J,COLD+HEATER-O,NO-EMI(PERU,ARAB)	1	
		361NPCB943	MINI,V.E,220,J,COLD+HEATER-O,EMI(RUSSIA)	1	
		361NPCB946	MINI,V.E,220,J,COLD+HEATER-X,NO-EMI(PERU,ARAB)	1	
		361NPCB947	MINI,V.E,220,J,COLD+HEATER-O,EMI(CHINA)	1	
A32	REACTOR	3615800500	RT-028 L=3.6MH(0A),L=5.2MH(1A)	1	OPTION

2. COVER TUB AS



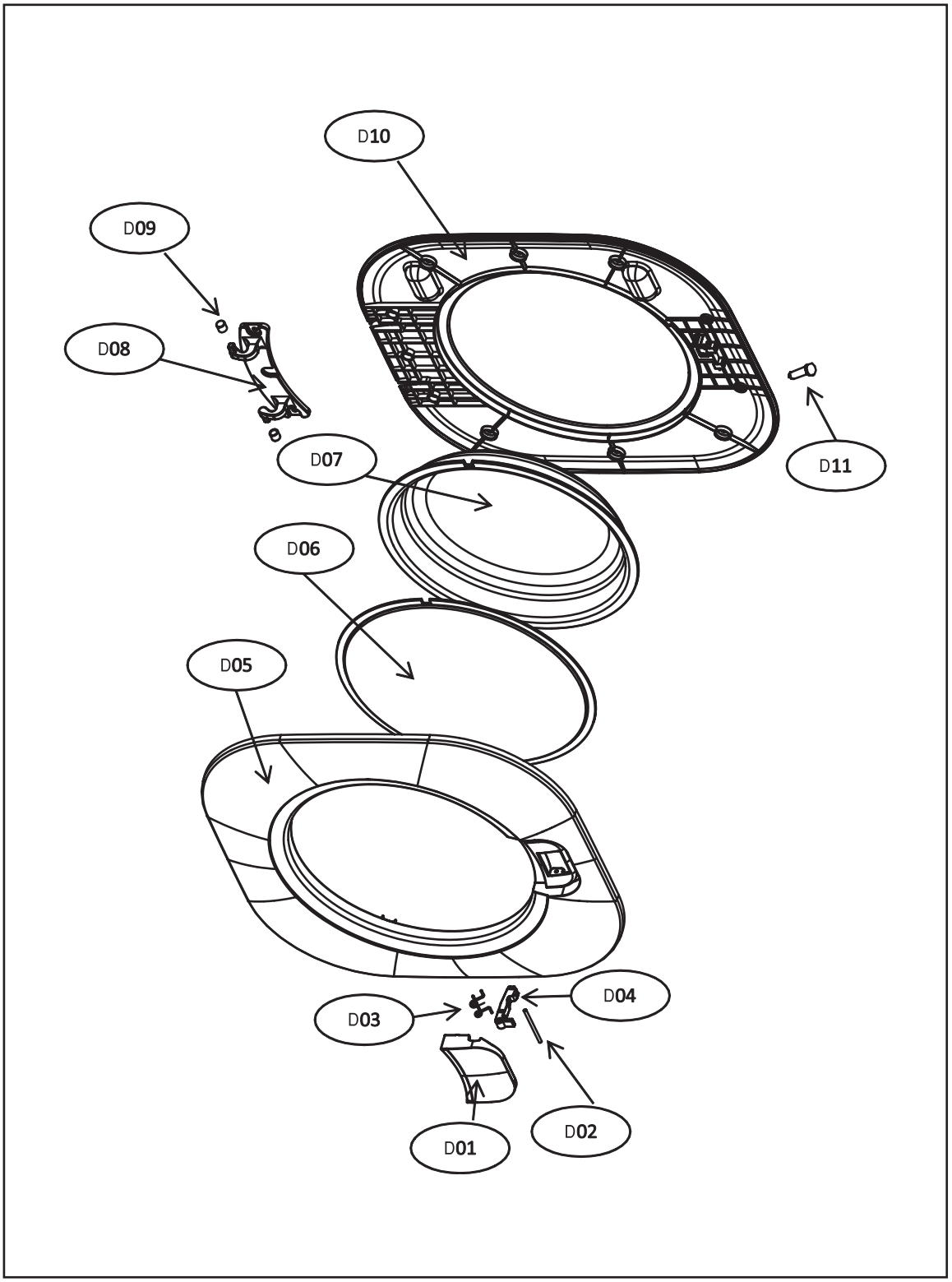
No.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARK
B01	CLAMP GASKET AS	3611204540	D-M300, D1.4	1	
B02	GASKET DOOR	3612328000	D-M300,EPDM	1	
B03	PACKING DETERGENT	PRPKCA3R80	D-M300, NBR	2	
B04	COVER TUB	3618831700	D-M300, FRPP	1	
B05	SCREW TAPPING	7122502508	T2S TRS 5*25 SUS	15	
B06	GASKET TUB	3612326100	D-M300, PI=4.5,EPDML=1385	1	

3. COVER BODY AS



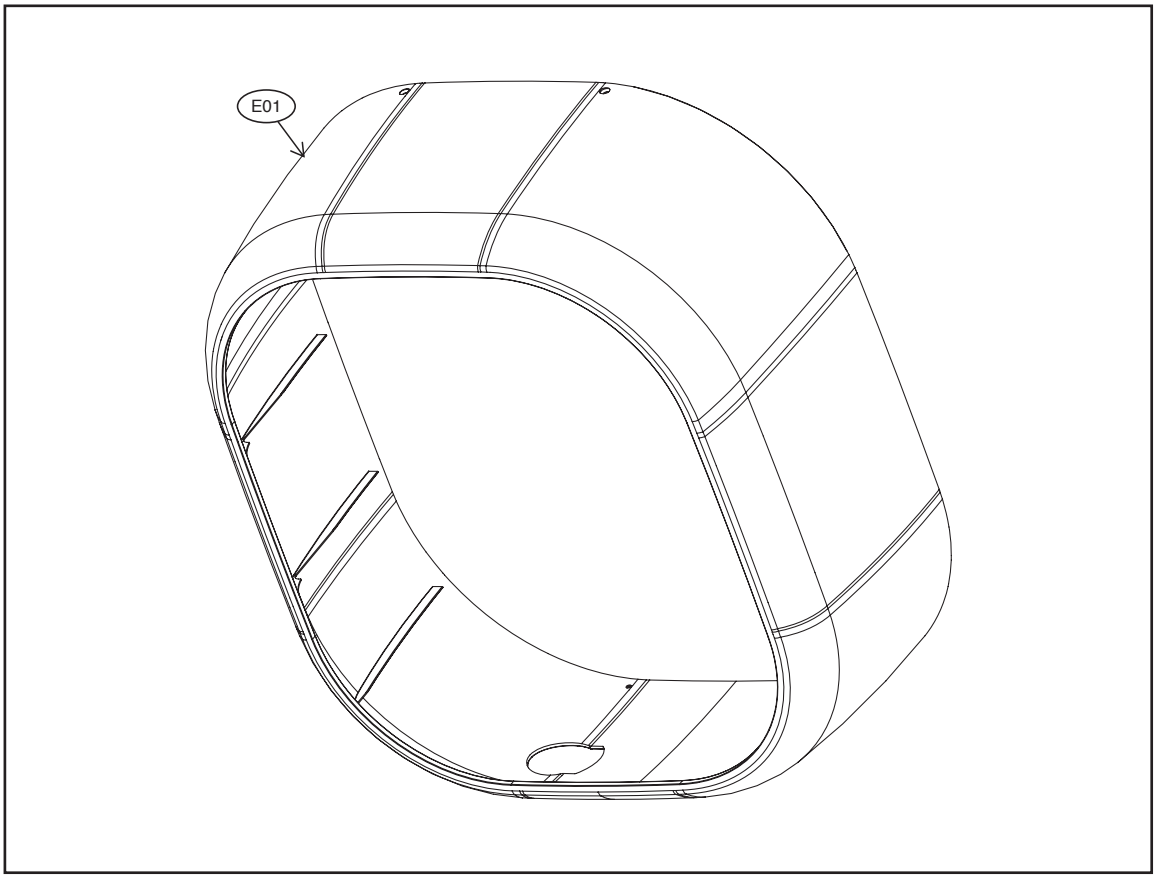
No.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARK
C01	COVER BODY	361081WG01	D-M300,ABS,SPRAY	1	
C02	CASE DETERGENT	36111T3J00	D-M300, PP	2	
C03	HANDLE DETERGENT	3612613121	D-M300, ABS, SPRAY	2	
C04	CAP SCREW	3610917731	D-M300, ABS, SPRAY	6	
C05	DECORATOR FILM	36116DWQ01	D-M301, PET	1	
C06	PCB AS	PRPSSWD100	D-M301 FRONT PCB AS, H/T	1	
C07	SWITCH DOOR LOCK	3619047230	DL-S2,DM. 250V16A.BITRON.VE-TYPE,CONCORE	1	
C08	CASE PCB F	36111T3L00	D-M300,HIPS	1	

4. DOOR AS



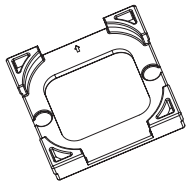
No.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARK
D01	HANDLE DOOR	3612614801	D-M301, ABS, CR-GILDING	1	D-CV701PC**
		3612614800	D-M300, ABS		D-CV701AW****
D02	PIN HANDLE	3618200200	SUS304, D3, L48	1	
D03	HOOK SPRING	3615119400	SUS D1.6 L40	1	
D04	HOOK DOOR	3613102000	D-M300, ZNDC	1	
D05	FRAME DOO*O	36117AE101	D-M301, ABS, CR-GRLDING	1	D-CV701PC**
		36117AE100	D-M300, ABS		D-CV701AW****
D06	PROTECTOR GLASS	3618304900	D-M300, TR ABS	1	
D07	DOOR *I	361A114500	D-M300, TR-PETG	1	
D08	HINGE DOOR	3612904800	D-M300, ALDC	1	
D09	CAP HINGE DOOR	3610916500	POM	2	
D10	FRAME DOOR *I	36117AE200	D-M300, PP	1	
D11	SCREW TAPPING	7115401629	T1 FLT 4X16 SUS	11	

5. BODY AS



No.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARK
E01	BODY AS	361081WF11	D-M301	1	D-CV701PC**
		361081WF10	D-M300, ABS		D-CV701AW****

6. PACKING AS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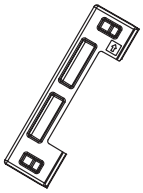
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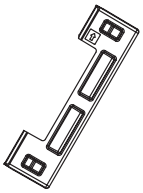
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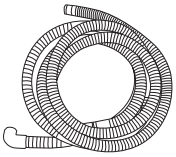
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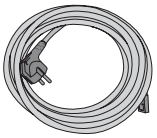
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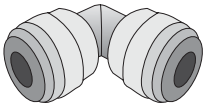
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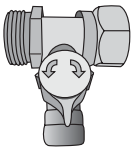
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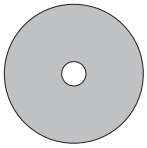
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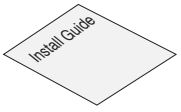
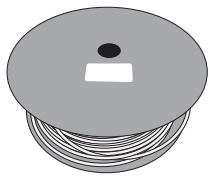


F13

No.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARK
F01	CUSHION BOTTOM	3611580000	D-M300,EPS	1	
F02	CUSHION *L	3611578000	D-M300,EPS	1	
F03	CUSHION *R	3611579000	D-M300,EPS	1	
F04	ANCHOR BOLT AS	3616067100	3/8"(M10),SUS,L=6"/BASIC, P/W 2T 30MM,LOCK NUT	4	
F05	HOSE DRAIN OUTER AS	3613275800	D-M300. PVC, L=3M, CLAMP, ID=10,OD:14	1	
F06	HOSE INLET	3613270980	DFE04 LLDPE ID=4,OD=6	1	
F07	CORD POWER AS	3611308100	3M, MINI DRUM	1	
F08	ELBOW UNION	3612512800	D-M300, AEU0404W 1/4' DMT	3	
F09	CONNECTOR VALVE INLET	3619513100	D-M300, SMALL ID=19 OD=20.6 / BASIC	1	
F10	CUSHION PAD	3611535360	D-M300, EPDM 3T ID=10, OD=70	4	
F11	SCREW TAPPING	7115401629	T1 FLT 4X16 SUS	4	
F12	MANUAL OWNERS	3613926450	D-M300	1	
F13	INSTALL GUIDE	3612513000	D-M300	1	

7. Further parts for install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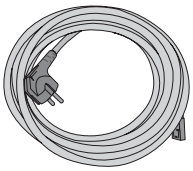
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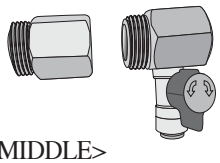
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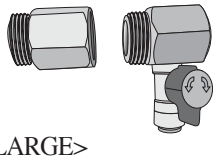
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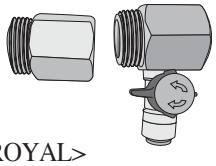
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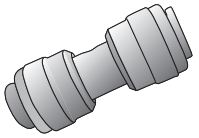
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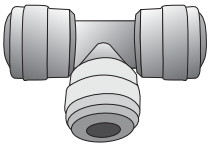
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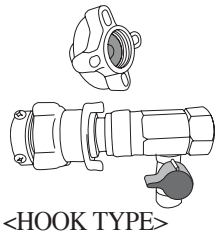
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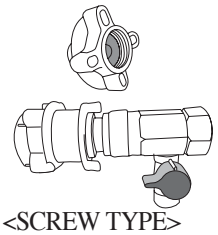
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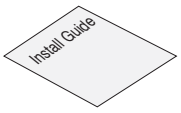

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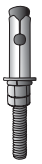

G10

No.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARK
G01	HOSE INLET	3613270980	DFE04 LLDPE ID=4,OD=6	1	300M/1Roll
G02	HOSE DRAIN *O	3613275839	SVC,D-M300. PE-LD, ID=14,OD=18,L=1M	1	
G03	POWER CORD AS	3611308100	3M, MINI DRUM	1	
		3611308200	5M, MINI DRUM	1	
G04	MOLDING AS	3610088170	PVC 1M MH-3 MID #4 DUCKSUNG ACRYLIC FOAM,NEW WHITE	1	
		3610088180	PVC 1M MH-3 MID #2 DUCKSUNG ACRYLIC FOAM,NEW WHITE	1	
G05	CONNECTOR VALVE INLET	3619513200	D-M300, MIDDLE ID=23 OD=24.8 / OPTION	1	
		3619513300	D-M300, LARGE ID=24.4 OD=26.3 / OPTION	1	
		3619513400	D-M300, ROYAL ID=26.6 OD=27.8 / OPTION	1	
G06	Union Connector	3612512810	AUC0404W 1/4' DMT	1	
G07	TEE UNION	3612512820	D-M300, ATU0404W 1/4' DMT	1	
G08	ADAPTER INLET VALVE AS	3613278000	D-M300, HOOK TYPE	1	
		3613279000	D-M300, SCREW TYPE	1	
G09	INSTALL GUIDE	3612513000	D-M300	1	
G10	ANCHOR BOLT AS	3616067200	3/8"(M10),SUS,L=8"/OPTION, P/W 2T 30MM,LOCK NUT	4	

4. PCB Functions

1. Cycle Programs

1.1.1 SEQUENCE CHART

Category		Progress Time	Normal	Delicate	Baby Care	Night Time	Spin	Tub clean
Wash	Water Supply	2 min	■	■	■	■	■	■
	Wash 1	33 min			■			
	(Heating)	10 min			■			
	Wash 2	27 min						
		11 min		■		■		
		10 min						■
		8 min	■					
		4 min			■			
Rinse	Drain	1 min	■	■	■	■		■
	Middle Spin	2 min	■	■	■	■		■
	Water Supply	2 min	■	■	■	■		■
	Rinse 1	2 min	■	■	■	■		■
	Drain	1 min	■	■	■	■		■
	Middle Spin	2 min	■	■	■	■		■
	Water Supply	2 min	■	■	■	■		■
	Rinse 2	2 min	■	■	■	■		■
	Drainage	1 min			■	■		
	Middle Spin	2 min			■	■		
	Water Supply	2 min			■	■		
	Rinse 3	2 min			■	■		
Spin	Drain	1 min	■	■	■	■	■	■
	Main Spin	3 min	■	■	■	■	■	■
	Unlocking	1 min	■	■	■	■	■	■
TOTAL			29 min	32 min	65 min	40 min	5 min	31 min

NOTE

1. The water temperature is set at 80°C for the steam wash of baby clothes.
2. The speed for the main and interim spin cycles is set at 700RPM except the Delicate and Night Time cycles. 400RPM and 500RPM apply to the Delicate and Night Time cycles, respectively.
3. The drainable water must be 50°C or colder.
4. As many as 5 additional rinse cycles are available for all programs.

1.1.2 SEQUENCE CHART

Division		Progress Time	Cold	Cotton 40	Cotton 40 (IEC60456)	Cotton 60	Cotton 60 (IEC60456)	Delicate	Baby Care	Spin
WASH	Water Supply	2min	■	■	■	■	■	■	▮	
	Heating Wash	33min		15min	30min	20min	35min			
		10min		■	■	■	▮		▮	
	Main Wash	138min			98min	18min	▮			
		27min		13min	▮	▮	▮			
		11min		▮	▮	▮	▮	▮		
		10min		▮	▮	▮	▮	▮		
		8min	▮	▮	▮	▮	▮	▮		
		4min	▮	▮	▮	▮	▮	▮	▮	
RINSE	Drain	1min	▮	▮	▮	▮	▮	▮	▮	
	Middle Spin	2min	▮	▮	3min	▮	3min	▮	▮	
	Water Supply	2min	▮	▮	▮	▮	▮	▮	▮	
	Rinse 1	2min	▮	▮	5min	▮	5min	▮	▮	
	Drain	1min	▮	▮	▮	▮	▮	▮	▮	
	Middle Spin	2min	▮	▮	3min	▮	3min	▮	▮	
	Water Supply	2min	▮	▮	▮	▮	▮	▮	▮	
	Rinse 2	2min	▮	▮	5min	▮	5min	▮	▮	
	Drain	1min			▮		▮		▮	
	Middle Spin	2min			3min		3min		▮	
	Water Supply	2min			▮		▮		▮	
	Rinse 3	2min			5min		5min		▮	
SPIN	Drain	1min	▮	▮	▮	▮	▮	▮	▮	▮
	Main Spin	3min	▮	▮	20min	▮	20min	▮	▮	▮
	Unlocking	1min	▮	▮	▮	▮	▮	▮	▮	▮
TOTAL			29min	49min	185min	59min	220min	32min	65min	5min

NOTE
1. The water temperature is set at 80°C for the steam wash of baby clothes.
2. The speed for the main and middle spin cycles is set at 700RPM except the Delicate. 400RPM apply to the Delicate, respectively.
3. The drainable water must be 50°C or colder.
4. As many as 5 additional rinse cycles are available for all programs.

1.1.3 SEQUENCE CHART

Division		Progress Time	Normal	Delicate	Baby Care	Night Time	Spin	Intensive		
								COLD	40	60 (IEC60456)
WASH	Water Supply	2min	■	■	■	■		■	■	■
	Heating Wash	33min							30min	35min
		10min							■	■
	Main Wash	118min								■
		27min				12min				■
		11min		■		■				■
		10min		■		■		■	■	■
		8min	■	■		■		■	■	■
		4min	■	■	■	■		■	■	■
RINSE	Drain	1min	■	■	■	■		■	■	■
	Middle Spin	2min	■	■	■	■		3min	3min	3min
	Water Supply	2min	■	■	■	■		■	■	■
	Rinse 1	2min	■	■	■	■		5min	5min	5min
	Drain	1min	■	■	■	■		■	■	■
	Middle Spin	2min	■	■	■	■		3min	3min	3min
	Water Supply	2min	■	■	■	■		■	■	■
	Rinse 2	2min	■	■	■	■		5min	5min	5min
	Drain	1min			■	■		■	■	■
	Middle Spin	2min			■	■		3min	3min	3min
	Water Supply	2min			■	■		■	■	■
	Rinse 3	2min			■	■		5min	5min	5min
SPIN	Drain	1min	■	■	■	■	■	■	■	■
	Main Spin	3min	■	■	■	■	■	■	■	■
	Unlocking	1min	■	■	■	■	■	■	■	■
TOTAL			29min	32min	65min	40min	5min	50min	80min	210min

NOTE
1. The water temperature is set at 80°C for the steam wash of baby clothes.
2. The speed for the main and middle spin cycles is set at 700RPM except the Delicate and Night Time cycles. 400RPM and 500RPM apply to the Delicate and Night Time cycles, respectively.
3. The drainable water must be 50°C or colder.
4. As many as 5 additional rinse cycles are available for all programs except the Intensive.

1.2. Button Functions

No.	Buttons	Functional Description	Note
1	Power	When the power button is turned off, the power relay is cut offto sever the common line for electric supply and, accordingly,ensure electrical safety.	
2	Program	Premium: Normal->Delicate->Baby Care->Night Time ->Spin->Tub clean Regular: Normal->Delicate->Night Time->Spin->Tub clean	
		Premium: Cold -> Cotton40 -> Cotton 60 -> Delicate -> Baby Care -> Spin	
		Premium: Normal->Delicate->Baby Care->Night Time ->Spin -> Intensive -> Intensive 40 -> Intensive 60 Regular: Normal->Delicate->Night Time->Spin-> Intensive	
3	Add Rinse	Up to 5 cycles are addable for all programs. Up to 8 additionalcycles are available for 'Baby Care', 'Intensive', 'Intensive40', 'Intensive60' and 'Night Time' while 7 additional cycles are available for 'Normal', 'Delicate', 'Cotton 40', 'Cotton60' and 'Tub clean'. Up to 5 additional cycles are available for 'Spin'.	
4	Start/Pause	The LED lamp for 'Program' button flickers duringand remains on when the washer stops the cycle.	

2. Program Functions

2-1. Wash Program

1) Wash Programs

① The default washing times and water levels apply for all the programs without sensing the load.

2) Wash Times

Category / Program	Water level	Time of water supply	Heating time	Wash time	Total wash time
Normal / Cold	Default	2 minutes	–	8 minutes	10 minutes
Delicate	Default	2 minutes	–	11 minutes	13 minutes
Baby Care	Default	2 minutes	33 minutes	4 minutes	39 minutes
Night Time	Default	2 minutes	–	12 minutes	14 minutes
Tub clean	Default	2 minutes	–	10 minutes	12 minutes
Intensive	Default	2 minutes	–	10 minutes	12 minutes
Intensive40	Default	2 minutes	15 minutes	25 minutes	42 minutes
Intensive60	Default	2 minutes	20 minutes	135 minutes	157 minutes
Cotton 40	Default	3 minutes	–	13 minutes	15 minutes
Cotton 60	Default	4 minutes	–	18 minutes	20 minutes

* Washing time after the water temperature reaches the target level.

① The washing time consists of heating cycle and post-heating main wash cycle. The time displayed for heating cycle elapses immediately on completion of heating cycle or remains unchanged until the heating cycle is over.

② The heating cycle is complete when the water temperature reaches the target level.
- If the water temperature doesn't reach the target level after the heating cycle under the Baby Care, Cotton 40, Cotton 60, Intensive 40, Intensive 60, program, the time on display stops declining and an additional heating cycle applies for 10 minutes. If the water temperature doesn't reach the target level after the additional cycle, the heating cycle is suspended and the main wash cycle starts.

③ The water heater does not resume its operation after it is turned off when the water temperature reaches the target level.

3) Resupply of Water

① The water level is measured every two minutes after the initial water supply to add water if the level is lower than the pre-determined level.

② The motor stops running during the resupply of water.

③ Water is resuppliable up to 20 times during wash. On the occurrence of the 21st water supply, the "E4" error is displayed and the wash cycle is suspended. -> This error doesn't usually take place because of the short duration of wash program.
- Start the pump on the occurrence of the "E4" error.

④ If the water level is below the reset level during the resupply of water, the 'IE' error is displayed and the heater is turned off.

4) Detection of Overflow

① The water level is measured every two minutes after the initial water supply to drain water if the level is above the overflow level.

② If the water level is measured above the overflow level three times, the 'E3' error is displayed and the wash cycle is suspended. However, the water continues to be drained.

③ If the water level is first measured to be above the overflow level during the "Baby Care" program, the heating cycle is skipped. The 'E3' error is displayed on the third occurrence of overflow detection, and the wash cycle is suspended. However, the water continues to be drained.

④ If the water level is measured to be above the overflow level when the wash cycle is suspended, the 'E2' error takes place but the water continues to be drained.

5) Water Level for Heating Cycle

① If the water level is measured below the preset level, the heater is turned off to prevent overheating or short circuit during the heating cycle.

2-2. Rinse Cycle

1) Drainage

① If the water is 55°C or hotter, cold water is added to lower the water temperature. When the water temperature decreases to 50°C or lower, water drainage resumes.

② After the water drainage starts, the drain pump continues to work.

③ If the water level lowers to the reset level within 60 seconds, the waiting time of 20 seconds applies. Otherwise, the waiting time of 40 seconds applies.

2) Intermediate Spin

① Intermediate spin is run at the pre-determined speed for each program.

Category / Program	RPM
Normal	700
Delicate	400
Baby Care	700
Night Time	500
Spin	–
Tub clean	700

Category / Program	RPM
Cold	700
Cotton 40	700
Cotton 60	700
Baby Care	500
Delicate	400
Spin	–

Category / Program	RPM
Normal	700
Delicate	400
Baby Care	700
Night Time	500
Spin	–
Intensive(Cold,40,60)	700

3) Water Supply

① Only cold water is supplied to the rinse cycle.

② Fabric softener is added to the final rinse cycle.

4) Resupply of Water

① The water level is measured a minute after the rinse cycle starts to determine whether water needs to be added to raise the water level to the preset level.

2-3.Spin Cycle

1) Drainage

① It is equivalent to the drainage cycle for rinsing.

2-3.Spin Cycle

1) Termination of Door Lock

① After the electric signal to door lock is cut off, the door is shaken horizontally until it becomes mechanically openable.

3. Functional Structure

3-1. Water Supply Level

1) Water Supply Level

① RESET
: It is the water level to start drainage. The spin cycle starts 30 seconds after the reset level is reached. It is the minimum water level to start operating the heater.

② HEATER OFF
: . It is the minimum water level to start operating the heater. The heater starts running only when the water level is above this measure.

③ WASH 1
: Water level for Baby Care program

④ WASH 2
: Water level for Normal, Delicate, Cold, Cotton 40, Cotton 60 or Night time program

⑤ WASH 3
: Water level for Normal, Delicate, Cotton 40, Cotton 60, Intensive, Intensive 40, Intensive 60 or Night time program

⑥ LOCK OFF (Water level to unlock door)
: Water level to enable to open the door

⑦ LOCK ON (Water level to lock door)
: Water level to lock the door automatically due to the water in the tub.

⑧ Overflow Level
: Water level to start draining water due to overflow risk. The water supply is suspended and the water is drained to lower the level to the reset level if the overflow level is reached.

3-2. DOOR S/W

1) DOOR S/W

① Locking of Door

A pulse of 20m sec duty is transmitted twice to the solenoid 3 seconds after the bimetal door switch starts running until the door is locked. The bimetal starts running as soon as the power button is pressed.

② Unlocking of Door

A pulse of 20m sec duty is transmitted to the solenoid after the bimetal door switch is turned off until the door is unlocked

③ The wash cycle is startable as the motor and other parts become available for operation when the door is locked.

④ The door is locked when the water is measured at 61°C or hotter or the water level is above the safety level after the Power button is turned on.

⑤ The door is unlocked promptly after the cycle is complete.

⑥ The door is unlocked if it is openable when the cycle is suspended.

3-3. Child Lock

1) Mechanism

① If the 'Program' and 'Add Rinse' buttons are pressed simultaneously, the Child Lock mode starts running.

② In the Child Lock mode, all buttons except the Power button (press it for over 1.5 seconds) are unavailable for use.

③ The Child Lock mode is terminated if the 'Program' and 'Add Rinse' buttons are pressed simultaneously.

④ If the Power button is pressed for over 1.5 seconds, the Child Lock mode is terminated.

4. TEST MODE

4-1. Part Test Mode

1) Test Start

① Press the 'Program' button and then select 'Delicate' program. With the 'Program' button pressed, press the 'Add Rinse' button three times to start a test.

② The product version is displayed after starting a test.

③ Press the 'Program' button to run the washer in the following sequence.

Sequence	Description	Display
1	Lock the door	'LC' or 'LO'
2	Display the durability number	'rn', 'number'
3	Number of hall sensor errors	'b1', 'number'
4	Number of IPM fault errors	'b2', 'number'
5	Number of motor overload errors	'b3', 'number'
6	Number of errors in motor arrangement	'b4', 'number'
7	Number of failures in tracking the motor speed	'b5', 'number'
8	Number of errors in DC LINK overvoltage	'b6', 'number'
9	Number of errors in DC LINK low voltage	'b7', 'number'
10	Number of failures in starting motor	'b8', 'number'
11	Operate the cold water valve	'C'
12	Operate the softener valve	'r'
13	Operate the drainage valve	'dr'
14	Unlock the door	'LC', 'LO'

5. Error Alerts

5-1. IE (Input Error) Error - Failure in Water Supply

1) Conditions
   ① The preset water level is not reached within 20 minutes after the water supply starts or resumes.
   ② During wash: The error occurs 4 minutes after the water level remains unchanged or 20 minutes after the water level starts changing.
   ③ During rinse: The error occurs 20 minutes after the cycle starts.

2) The "LE" error flickers on the display panel.

3) If the Power button is turned off and on, the error display disappears.

5-2.OE (Output Error) Error - Failure in Water Drainage

1) Conditions
   ① The preset water level is not reached within 10 minutes after the water starts being drained.
   ② Overload situations caused by failures in drainage take place 18 times during the final main spin cycle.

2) The "LE" error flickers on the display panel.

3) If the Power button is turned off and on, the error display disappears.

5-3. LE (Lock Error) Error - Failure in Door Unlocking

1) Conditions
   ① The Start/Pause button is pressed to run the cycle when the door is open.
   ② The error disappears promptly when the door is closed and the subsequent cycle starts.

2) The "LE" error flickers on the display panel.

3) If the Power button is turned off and on, the error display disappears.

5-4. E1 Error - Error in Water Level Detection

1) Conditions

① The water level is below the reset level or above the overflow level in the line test mode.

2) The drainage synchronous motor continues to work until the water level drops to the reset level.

3) If the Power button is turned off and on, the error display disappears.

5-5. E2 & E3 Errors - Overflow Error

1-1) Conditions for E2

① The water supply valve is running when the washer is turned off and the operation is suspended so that the water level reaches the overflow level.

1-2) Conditions for E3

① If the errors are detected three times or more during operation, the 'E3' error appears on the display panel. The operation is suspended, but water continues to be drained.

② If the water level is first measured to be above the overflow level during the "Baby Care" program, the heating cycle is skipped. The 'E3' error is displayed on the third occurrence of overflow detection, and the wash cycle is subsequently suspended. However, the water continues to be drained.

2) The drainage synchronous motor continues to work until the water level drops to the reset level.

3) The "E2" or "E3" error flickers on the display panel.

4) If the Power button is turned off and on, the error display disappears.

5-6. E9 Error - Error in water level sensor

1) Conditions

① The water level sensor transmits a frequency of 15KHz or lower or 30KHz or higher due to malfunctions.

2) The "E9" error flickers on the display panel.

3) The error warning is sounded for 10 seconds every 10 minutes.

4) If the Power button is turned off and on, the error display disappears.

5-7. E4 Error - Error in the Detection of Water Leaks

1) Water is resupplied over 20 times during a wash cycle. -> This rarely occurs due to the short cycle duration.

2) The motor stops running and the 'E4' error appears on the display panel.

3) If the Power button is turned off and on, the error display disappears.

5-8. Errors in Motor

1) b1 Error (Error in HALL IC signals)

2) b2 Error (EMG or IPMFAULT)
① The error occurs when electric current of 15A or higher flows into the shunt resistance of IPM-MODULE. The function is to protect PCB from the motor overheating.
② The motor stops running, and 30 retrials are made. Then, the 'b2' error appears on the display panel.
③ If the Power button is turned off and on, the error display disappears.

3) b3 Error (Motor overload error)

4) b4 Error (Failure in motor arrangement)

5) b5 Error (Failure in tracking the motor speed)

6) b6 Error (Error in DC LINK overvoltage)

7) b7 Error (Error in DC LINK low voltage)

8) b8 Error (Failure in starting motor)
① The error is caused by failure to rotate the motor due to the initial overrunning of motor.
② The motor stops running, and 30 retrials are made. Then, the 'b8' error appears on the display panel.
③ If the Power button is turned off and on, the error display disappears.

'b1', 'number'	Number of hall sensor errors
'b2', 'number'	Number of IPM fault errors
'b3', 'number'	Number of motor overload errors
'b4', 'number'	Number of errors in motor arrangement
'b5', 'number'	Number of failures in tracking the motor speed
'b6', 'number'	Number of errors in DC LINK overvoltage
'b7', 'number'	Number of errors in DC LINK low voltage
'b8', 'number'	Number of failures in starting motor

5-10. Errors in Temperature Sensor (Available for premium model only)

1) H2 Error - Open/Short error in washer temperature sensor (Available for premium model only)
   ① The washer temperature sensor fails to work or is not properly connected.
   ② The error warning is sounded for 10 seconds every 10 minutes.
   ③ If the Power button is turned off and on, the error display disappears.

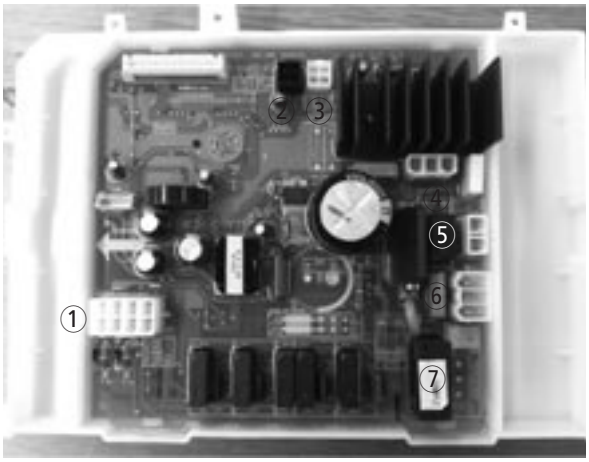
2) H4 Error - Overheated washer temperature sensor (Available for premium model only)
   ① The sensor temperature turns out to be 125°C or higher.
   ② If the Power button is turned off and on, the error display disappears.

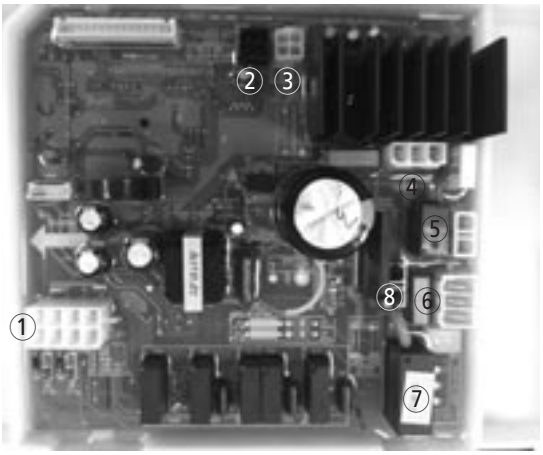
3) H5 Error - Error in water temperature for Delicate program (Available for premium model only)
   ① The water temperature is 45°C or higher in the Delicate program. (The error occurs during operation only when the tub contains water)
   ② If the Power button is turned off and on, the error display disappears.

4) H6 Error - Malfunction of water heater (Available for premium model only)
   ① The water temperature fails to rise by 2°C within 30 minutes after the heater starts running.
   ② If the Power button is turned off and on, the error display disappears.

5) H8 Error - Overheated water heater (Available for premium model only)
   ① The water temperature rises by 6°C or more within 30 seconds after the heater starts running due to the lack of water in tub or other reasons.
   ② The water heater doesn't operate although it is functional. The washer is running with the heater turned off.

6. PCB PIN





① FW1(WHITE 8PIN)
- 1: COLD V/V
- 2: SOFT V/V
- 3: DRAIN V/V
- 4: LOCK-PTC
- 5: LOCK-SOL
- 7: DRAIN-CHECK
- 8: LOCK-CHECK

② WF9(BLACK 4PIN)
- 1: Vdd
- 2: GND
- 3: LEVEL SENSOR
- 4: W-TEMP

③ WF10(WHITE 4PIN)
- 1: Vdd
- 2: GND
- 3: Ha
- 4: Hb

④ WF7(WHITE 3PIN)
- 1: W
- 2: V
- 3: U

⑤ WF6(WHITE 2PIN) :
HEATER OPTION
- 1: HEATER
- 2: HEATER

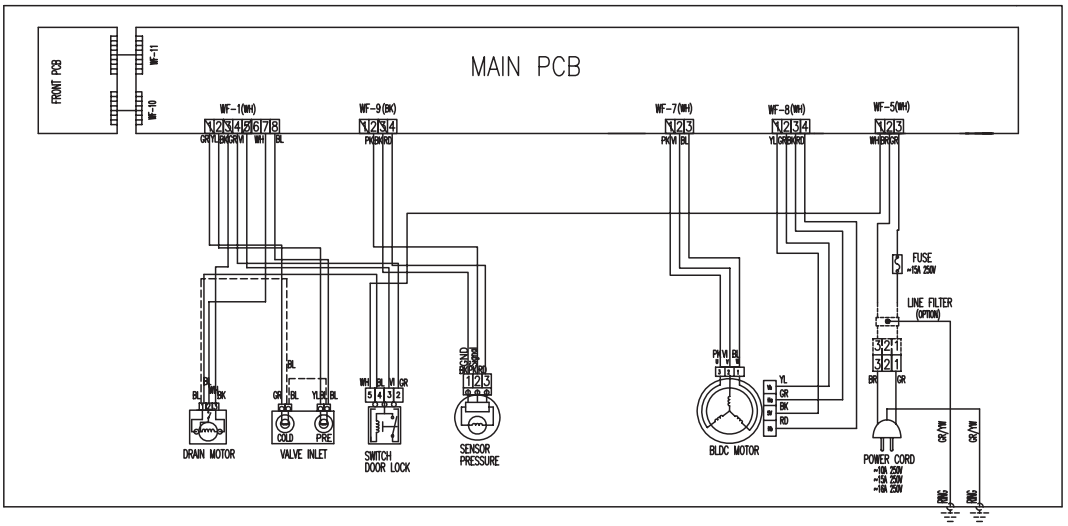
⑥ WF5(WHITE 3PIN)
- 1: POWER RELAY
- 2: P/CORD
- 3: P/CORD

⑦ WF5(RED 3PIN)
POWER OPTION

⑧ WF2(BLUE 2PIN)
REACTOR OPTION

5. Wiring Diagram

D-CV701****01



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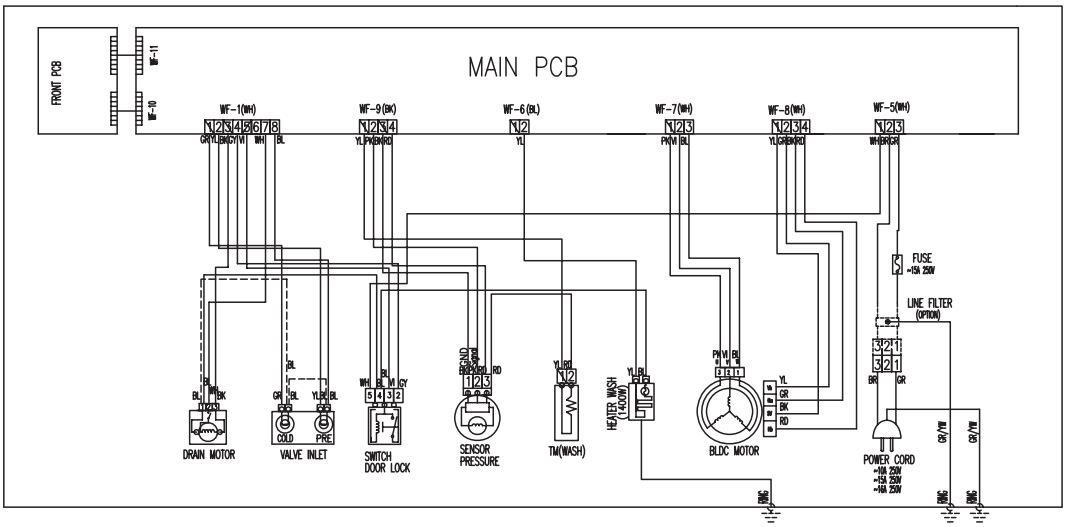


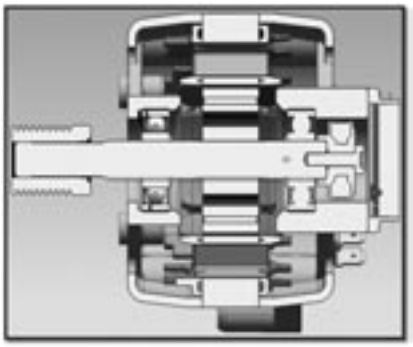
6. Part List and Major Specifications

NO	PART NAME	Rating	PART CODE	BOM DESCRIPTION	Maker/ P
1	WASH MOTOR	d.c. 310 V, 125 W	36189L8000	DWD200BL, Class F	N
2	DRAIN MOTOR	220 V, 3 W	3919601000	SDPV-1, Class E	
3	VALVE INLET	220 V, 5.5 W	3615401000	SV-11CWB, Class E	Shi
4	WASH HEATER	220 V, 1400 W	3612804000	1R8A721	
		220 V, 1400 W		1R0X350	
5	FUSE	250 V, 15 A		MAIN FUSE, 326	LI
		250 V, 15 A		M-PCB, 66TL	
6	THERMAL FUSE	220 V, 16 A		WASH HEATER entrails (2EA)	
7	POWER CORD Assy	Korea	3611308101	H05VV-F, 3G, 1.5mm^2, 3 M	
			3611308202	H05VV-F, 3G, 1.5mm^2, 5 M	
8	POWER PLUG	250 V, 16 A		SEE-72GE	
9	EMI FILTER	250 V, 12 A	3611913000	DFC-2712D	
10	MICRO SWITCH			MS-11D	
11	X-CAPACITOR	275 V		M-PCB, CMI, CM15, PCX2 335M, 0.1 μF	
12	VARISTOR	560 V		SVC561-14	Sam
13	RELAY	250V, 10 A		RY8, GA-1A-12L	
		250V, 10 A		RY5, GI-1A-12DH	
		250V, 10 A		RY8, OMI-SH-112LM	
		250V, 10 A		RY8, SMI-S-112LM	
		250V, 10 A		RY5, SJ-S-112DM	
		250V, 10 A		RY1~4, RY6, Y5-1A-12L	
		250V, 10 A		RY1~4, RY6, PCJ-112D3MH	
		250V, 10 A		RY1~4, RY6, SRB-S-112DM	
14	PHOTO COUPLER	5KV		PC-17K1	K
15	TRANSFORMER			M-PCB, TS14-14	Nam
				M-PCB, TS14-14	Wo
16	SENSOR PRESSURE		3614825320	DL-DW12-H, AIR INLET 270 HOOK TYPE	
17	THERMISTOR WASH		361AAAAB10	R25=1.704kΩ R80=11.981kΩ	
18	HARNESS EARTH		3612794420	D-M301	Daes
19	HARNESS AS		361279C000	Cold & Rinse, Heater	Dongy
20	EMI SUB HARNESS		361279A620	TR 29 * 19 * 15 G5B 8 Turn	Dongy
21	SWITCH DOOR LOCK		3619047230	DL-S2 ,BITRON, VE-TYPE	

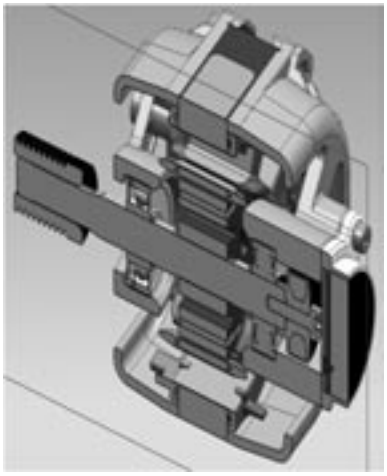
Maker Maker/Post-Production Procedures	Model		SPEC
	Premium	Regular	
	Steam Wash	-	
New Motech	◎	◎	
Samco	◎	◎	
Shinsung Mtech	◎	◎	
IRCA	◎		
IRCA	◎		
LITTEL FUSE	◎	◎	
ORISEL	◎	◎	
Thermo-	◎		G5×167, G5×184, On/Off 184 ℃
SE SHIN	◎	◎	
SE SHIN	◎	◎	
SE SHIN	◎	◎	
DPC	◎	◎	2× 5.0 mH(L), 1×680 kΩ(R) 2× 0.47 ㎌(X cap) , 2×1000pF(Y cap)
MORSE	◎	◎	DC 30 V, 3 A, AC 250 V, 2 A
PILKOR	◎	◎	
Samwha Capacitor	◎	◎	
GOLDEN	◎	◎	
GOLDEN	◎		
TYCO	◎	◎	
SANYOU	◎	◎	
SANYOU	◎		
GOLDEN	◎	◎	
TYCO	◎	◎	
SANYOU	◎	◎	
KODENSHI	◎	◎	
Namseong Electric	◎	◎	1st: d.c. 310V, 2nd: d.c. 12V, 15 V, Class E
Woonro Electric	◎	◎	1st: d.c. 310V, 2nd: d.c. 12V, 15 V, Class E
nTeko	◎	◎	
SST	◎	◎	
Daeshin Electronics	◎	◎	
Dongyang Electronics	◎	◎	
Dongyoung Electronics	◎	◎	
Vitron	◎	◎	

1. Specifications, Operation, and Defect Inspection of Inverter Motor

1) Specifications

Category	Specifications	Configuration
Motor Type	Ternary Phase Brushless DC Motor	
Ventilation/Cooling	Open/magnetic ventilation	
For Use Load	Front load washer	
Stator Pole	9 POLE	
Rotor Pole	6 POLE	
Voltage (V)	DC 240 - 310V	
Max. Output (W)	125 W	
Stator Coil	AIEIW AL	
Hall Sensor Assembly	HALL IC A329 1K	
Power Consumption (W)	25	
Current (A)	1.0	
Revolution per Minute (RPM)	1500	
Wire Round Resistance (Ω)	2.25±5%	

2) Operation



① ROTOR	The rotor is designed in inner rotation type to transform the electric energy from stator into mechanical energy. It consists of the shaft and pulley to transmit the mechanical energy to outside. Belt is fixed on the pulley to enable set rotation.
② STATOR	The stator has a magnetic function, which requires coil winding for electric transmission to produce iron cores and electromagnets for magnetic functionality.
③ MAGNET	The magnet transmits energy and is permanently functional at all times. It doesn't require recharges even after repetitive uses.
④ SENSOR ASS' Y	It provides power to the coil of stator. It contains the hall IC to enable the assessment of motor speed.

□ Motor's Functional Mechanism

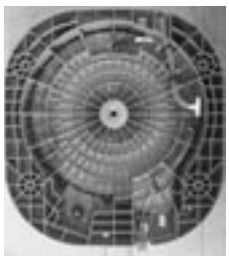
- The device transforms electric energy into mechanical energy.
- The motor contains a costly auxiliary driving gear, is controlled by semiconductors, causes low electric/mechanical noises, and is capable of running at high speed.
- The hall IC applies to locate the rotor. It acts as a brush-type commutator.
- The hall IC locates the active rotor with the magnet attached to the rotor and sends signals from the current rotor location to the base of transistor connected to the coil producing torques.
- TR approved for signals acts as an electronic switch to send the electric current to coil, causing forces (F) between the field magnet and coil to rotate the rotor.
- As the hall IC detects the pole opposite to the initially detected one when the rotor is running, the initially started TR is turned off and another TR is turned on to send the electric current in an opposite direction to the current over coil. This leads to cause the forces (F) between the field magnet and coil consistently.
- The mechanism reiterates to run the motor consistently.

3) Motor Malfunctions and Inspections

◎ Malfunction: * The b8 error (Failure in starting motor) occurs when the power is not supplied or other malfunction takes place.
* The b8 error occurs even when the motor fails to rotate properly due to defective connection of connector.
* The b2 error occurs when an excess current (15A or higher) flows into PCB.

Inspection	Repairs
* Inspect the power connector	* Normalize the connection of connector
* Inspect the connection of hall sensor connector	* Normalize the connection of harness connector
* Inspect the operation of motor * Assess the resistance in motor coil	* Exchange the motor
* Check the items specified above	* Take corrective measures after inspecting the corresponding parts (PCB, harness, drum components, etc.)

4) Motor Exchange Service



[Disassembly]

① Separate the power supply device and hall sensor connector from the motor

② Separate the belt

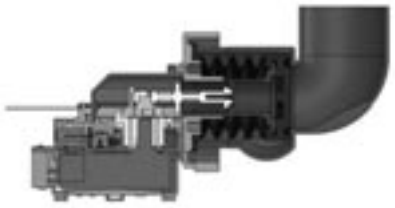
③ Disconnect 4 motor-fixing bolts

[Assembly]

Re-assemble the parts in the opposite sequence to disassembly

2. Specifications, Operation, and Defect Inspection of Drain Motor

1) Specifications

Category	Specifications	Configuration
Type	Combination of Housing and Synchronous Motor	
Pole	Negative Pole Synchronous Motor	
Revolution per Minute	5/6R.P.M. (50/60Hz)	
Electric Current	35mA or lower	
Power Consumption	3.0W or lower	
Voltage	AC220~240V, 50/60Hz	
Opening of Bellows	11mm or higher	
Operating Duration of Bellows	1 cycle (10 seconds), opening (5 seconds)	
Blocking Power of Bellows	Water pressure of 0.09kgf/cm2 at inlet	
Coil Resistance	13.2k_±5%(20°C)	

2) Operation

Valve Operation	Location of Cam	Description
		The bellows are completely closed, the location of cam is set at 0 degree, and the connection is off. The wash cycle does not start yet.
		After the power supply is connected, the synchronous motor starts operating and the cam begins to rotate at the same time to open the bellows. (Location of cam is set at 90 degrees, and the connection is on)
		After the power supply is connected and the internal connection is turned on, the operation continues for a while (pulse signal) and the cam is set at 180 degrees to start drainage. After drainage is complete, the power supply is reconnected from PCB to maintain the operation for a while and turn off the connection, which leads to close the bellows.

☞ Set Operation

▷ When the drainage valve is on

When the internal switch is off, signals continue to be transmitted to the drain motor until the internal switch is turned on. If the internal switch is turned on, signals are sent to the drain motor for about 3.6 seconds, which is subsequently turned off.

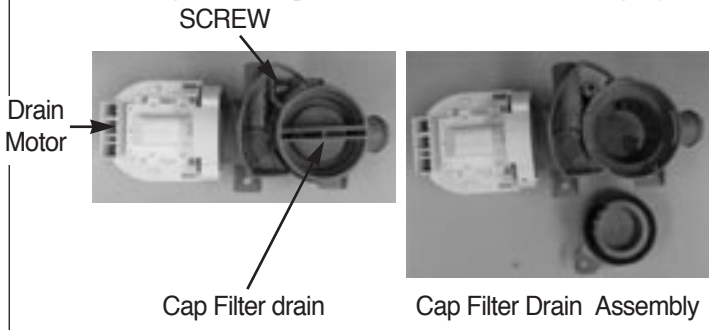
▷ When the drainage valve is off

When the internal switch is on, signals continue to be transmitted to the drain motor until the internal switch is turned off. If the internal switch is turned off, signals are sent to the drain motor for about 1.2 second, which is subsequently turned off.

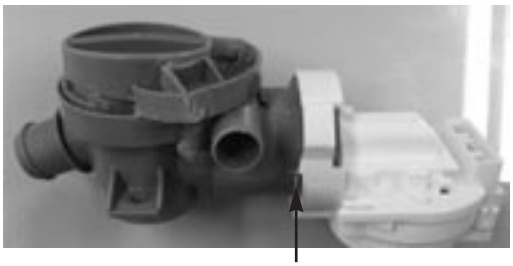
3) Drainage Malfunctions and Inspections

◎ Defects:

* The IE (INPUT ERROR) occurs as the water level doesn't change after the water supply starts. (The preset water level is not reached within 20 minutes)
* The OE (OUTPUT ERROR) occurs due to poor drainage. (The water level fails to reach the reset point within 10 minutes after the drainage starts)

Inspection	Repairs
* Inspect whether the hose drain is twisted orlocated too high	* Reinstall the hose drain normally
* Inspect whether the drainage valve is clogged with dust and impurities * Inspect whether any impurities exist between the bellows and housing to cause minor drainage (leaks)	* Detach the cap filter drain to the clockwise after detach the base screw * Clean the cap filter drain removing any impurities * After cleaning, turn thecap filter drain counterclockwise tightly 
* Examine the operation of drain motor * Examine the motor coil resistance	* Exchange the drain motor * Take corrective measures after inspecting relevant parts (water supply valve, pcb triac, etc.)

4) Cleaning and Exchange of Drain Housing



STOPPER

Drain Motor + bellows Assembly BASE+MOTOR

[Disassembly]

① Push the stopper of housing and turn the motor base counterclockwise to detach the bellows.

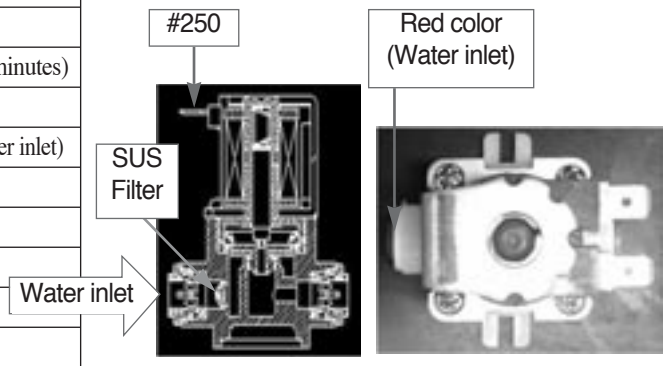
② Examine the inside to remove any impurities.

③ Exchange only the motor if the motor causes poor operation.

[Assembly] Re-assemble the parts in the opposite sequence to disassembly.

3. Specifications, Operation, and Defect Inspection of Inlet Valve [Valve for cold water and softener]

1) Specification

Category	Specifications	Configuration
Type	1/4 Inch Fitting Solenoid Valve	
Voltage	AC 220 VOLT 50/6Ohz	
Electric Current	30mA or lower	
Rating Time	60 minutes (Unloaded = 40 minutes)	
Power Consumption	5.5W or lower	
Terminal Angle	180 degrees (Clockwise at water inlet)	
Fluid in Use	Tap water	
Flux (4kgf/cm2)	7L or more	
Fluid Pressure	0.2 - 8kgf/cm2	
Opening and Closing Speed	1.0 sec or shorter	
Max. Temperature	60°C or lower	
Coil Resistance	4.31k_± 5% (20°C)	
Diaphragm Opreation	2.0mm or more	

2) Operation

If the power supply is connected to the water inlet valve, the rod valve is drawn by the coil's magnetic field to open the diaphragm hall and push up the diaphragm with water pressure. This leads to open the water flow and start the water supply. If the power supply is cut off, the coil's magnetic field disappears and the force of internal spring leads the rod valve to close the diaphragm hall, leading to block the water flow.

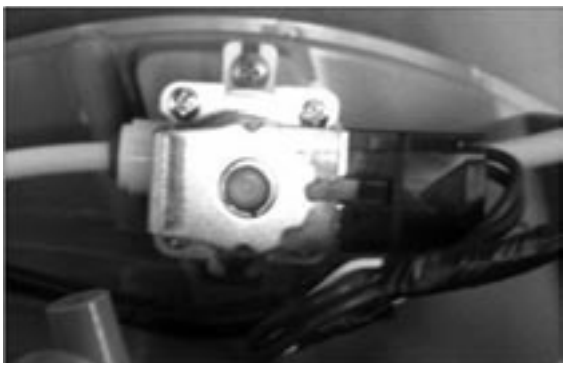
3) Inspection and Repairs of Water Inlet Valve

Defects	Descriptions	Causes	Inpsection Method	Repair Method	PCB Error Mode
Water supply unavailable	Water is not supplied despite the "drone"	Faucet is turned off.	Check whether the faucet is turned on	Turn on the faucet	"IE"
		Short coil	Check whether the inter-terminal resistance of inlet valve is 4.3kΩ	Exchange the part if it is open	"IE"
		Excessive impurities on SUS filter	Unplug the inlet hose and then check the impurities	Remove impurities and "cleanse" the filter	"IE"
Water supply unavailable	Water supply continues with the power "ON"	Impurities in valve	Check the malfunctions in valve	Exchange the inlet valve	"IE"
		Disconnected connector	Check the connection of connector with naked eyes	Reconnect the connector	"IE"
		Coil wire	Check whether the inter-terminal resistance of inlet valve is 4.3kΩ	Exchange the inlet valve	"IE"
		Disconnection in wiring	Check any disconnections in wiring -> Inspect circuit	Exchange the harness	"IE"
Constant water supply (into tub)	Power is "OFF" Constant leaks on sides	Defective water level sensor	See the inspection of "Water Level" defects	Exchange the water level sensor	"E2"
		Inspect any openings and blockages in pressure hoses	Inspect any openings and blockages in pressure hoses	Exchange the defective part	"E2"
		Defective valve	Check the malfunctions in valve	Exchange the inlet valve	-
Others		Check any leaks from the sides of inlet valve	Check any leaks from the sides of inlet valve	Exchange the inlet valve	-

4) Defects and Relevant Parts

Unavailable water supply	PCB	1. Inspect the insertion of PCB pin	Easily detachable if the wire is pulled	Housing on pin connection not properly inserted	Insert the housing on pin connection completely
		2. Unavailable power or water supply to inlet valve terminal	Open or destroyed PCB inlet circuit (Water relay unavailable)	Defective inlet circuit	Exchange the PCB
Incessant water supply	PCB	1. Water supply starts promptly when the power is turned "ON".	Short circuit in PCB inlet circuit or water relay (Incessant electric transmission to valve)	Short circuit in water relay	Exchange the PCB
	Inlet Valve	1. Examine whether the water supply continues even when the power supply is cut off	Deformed water inlet valve bellows	Defective inlet valve	Exchange the inlet valve
	Synchronous Drain Motor (Valve Housing)	1. Examine the operation/water supply of inlet valve 2. Examine the drainage through the drainage hose 3. Check any impurities in valve housing	• Unclosed due to impurities in drainage housing	• Impurities in valve housing • Impurities • Error in returns of synchronous motor	• Remove impurities • Remove impurities • Exchange the synchronous motor

5) Disassembly and Asssembly for Part Exchange



[Disassembly]

① Turn off the faucet

② Detach the housing

③ With the snap fit on inlet (red) pressed, separate the inlet hose. With the snap fit on outlet (gray) pressed, separate the inlet hose.

④ Unscrew a bolt

* Notes

① Connect the inlet hose properly to the inlet (red) and outlet (gray)

② Fasten the screw properly to prevent abrasion

③ Insert the inlet hose into valve tightly [Assembly of Inlet Valve]

4. Specifications, Defect Inspection, and Repairs of Heater

1) Specifications

Category	Specifications	Note
Maker	1RCA	
Voltage	220V	
Power Consumption	1400 W ±5%	
Resistance	34.570hm	
Current Desnity	11.9	
Temperature Fuse	184°C	
Thermister	Included in heater	
Materials	AISI321	
Max. Temperature	WATER	
Part Code	3612804000	

1. Temperature Fuse of Water Heater (184 °C Cutoff Type)
   - If the heater is running without water due to a malfunction in water level sensor and other defects, it may cause fire. The inter temperature fuse is designed to be cut off about a minute after overheating to prevent such problems. The heater temperature is set at around 270°C.
   - The water heater must be used in water.

2) Defect Inspection

Defects and Errors	Causes	Inspection of Defects and Errors	Resolution	PCB Error Mode
Water is not heated (Applicable for all front load washers)	Wire disconnection	Inspect the wire connection: Applicable to all models	Reconnect the disconnection	"H6" "H6"
	Disconnection in water heater or temperature fuse	Inspect the wire connection: If the inter-terminal resistance is within 34.57Ω ±5%, it is normal. -> Applicable to all front load models	Exchange the water heater	"H6" "H2" "H2" or "H4"
	Detachment of connector/terminal	Inspect the connection: Applicable to all front load models	Insert the terminal	
	Defective water heater or temperature sensor	Assessment of inter-terminal resistance of sensor: See the attached Water/Resistance Table	Exchange the temperature sensor	
Water is overheated	Defective water heater or temperature sensor	Assessment of inter-terminal resistance of sensor: See the attached Water/Resistance Table	Exchange the temperature sensor	

Exchange of Heater

Exchange of Water Heater

[Disassembly]
1. Remove 4 body-fixing screws
2. Remove the detergent and softener containers
3. Remove 2 screws fixing the door hinge
4. Remove 6 cover screws fixing the cover tub
5. Remove 6 screws fixing the cover tub
6. Remove the connector of water heater
7. Remove the nut for water heater

[Assembly]
Re-assemble the parts in the opposite sequence to disassembly

*** Error Modes**

1. "H2": Open/Short error in washer temperature sensor (Defective sensor or disconnection)
2. "H4": Overheated washer temperature sensor (The sensor temperature turns out to be 95°C or higher)
3. "H5": Overheated washer temperature sensor (The water temperature is 45°C or higher in the Delicate program)
4. "H6": Malfunction of water heater (The water temperature fails to rise by 2°C within 30 minutes after the heater starts running)
5. "H8": Overheated water heater (The water temperature rises by 6°C or more within 30 seconds after the heater starts running due to the lack of water in tub)

5. Specifications, Operation, and Defect Inspection of Water Level Sensor

1) Specifications

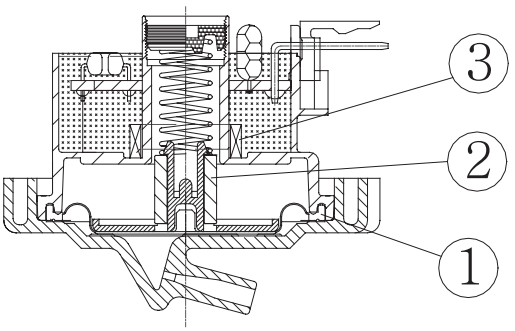
O/F: Water level at which the water must be drained due to excessively high level. Water supply is suspended and water drained until the level drops to the reset level.

RESET:
1. Drainage level. A spin cycle starts 20 to 40 seconds after the reset level is reached.

Water Level to Tunr off Heater:
1. Water level at which the heater is suspended

Model	Part Code	Category	Reset	Heater Off	Lock Off	Lock On	Wash 1	Wash 2	Water Level for Rinse	Overflow
DWD-M301WP	3614825320	Frequency	25.80KHZ	24.56 KHZ	24.32 KHZ	24.0 KHZ	23.84 KHZ	23.68 KHZ	23.68 KHZ	22.0 KHZ
DWD-M300WA	DL - DW12 - H									

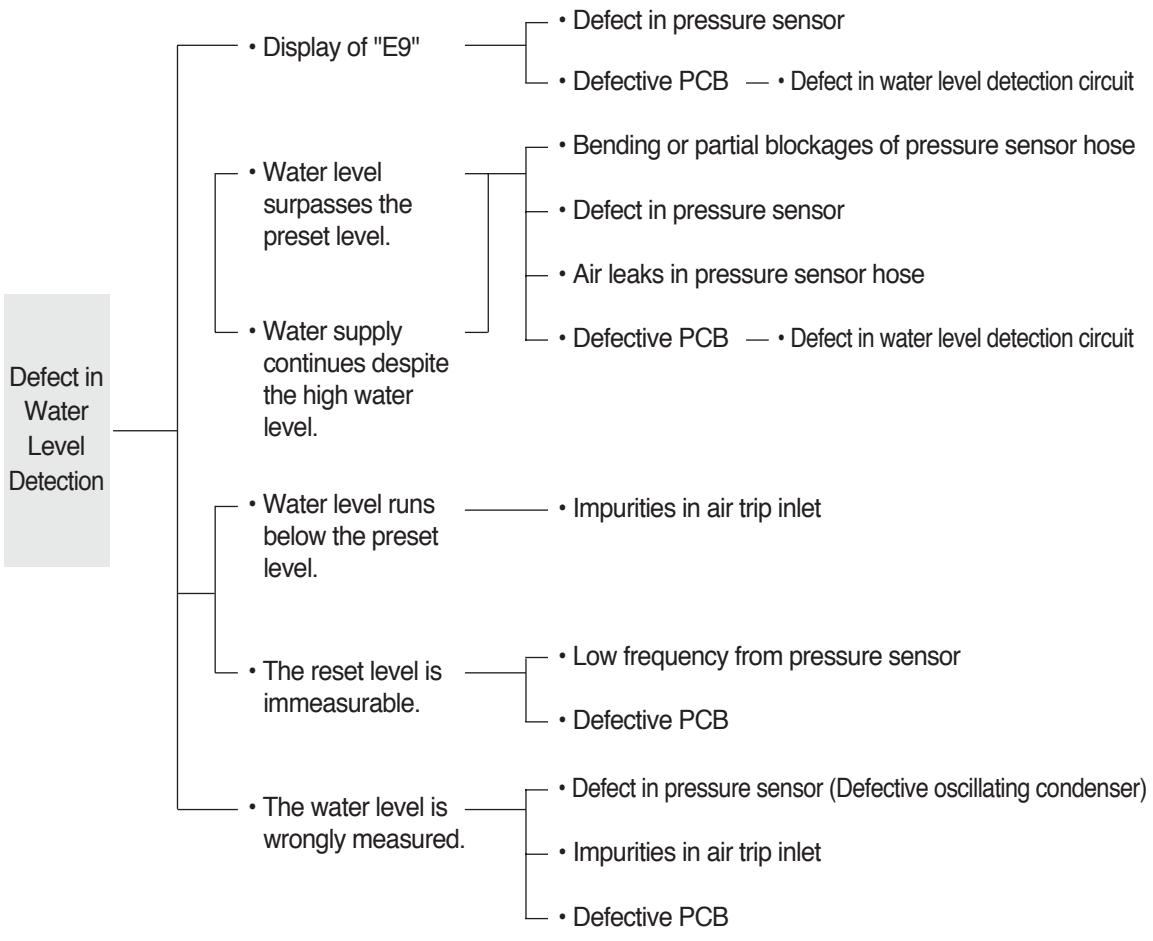
2) Functions and Operations of Pressure Sensor



After the water begins to be supplied through the inlet valve of washer, the tub is filled with water. The rising water level in the tub delivers the head pressure (mmH20), which passes through the pressure delivery hose between the tub and pressure sensor to the enclosed space. The pressure is transmitted to the ®Á diaphragm, which rises as the pressure increases. The delivered pressure immediately leads to the ®Ë metal core. As the metal core rises into the ®ÈCOIL-ASSY that is rolled in a specific format, the condensers and resistances connected to IC- 4069 buffer, a frequency oscillation circuit on C-MOS inverter using the induced electromotive force and magnetic force according to the contact of coil, are oscillated through RC, which leads the SIGN wave in frequency from the inductor to pass through the outlet buffer to be transformed into digital signals and transmit a square wave to display the oscillation cycle in a frequency format.
The frequency signals predetermined in the set play switching functions to control the head pressure in the tub. After the wash cycle is complete at the preset level and the water is drained, the head pressure declines to return the metal core to the original condition, enabling the repetitive application of function during the cycle.

2) Defect Inspection

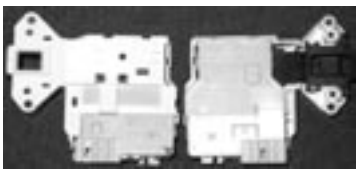
Defects and Errors	Details	Causes	Inspection of Defects and Errors	Resolution	PCB Error Mode
Incessant water supply	Water continues to be supplied although the inlet valve is functioning well.	Defect in the bellows of water level sensor	Check the frequency	Exchange the water level sensor	"E2"
		Defect in pressure sensor hoses	Check the frequency	Exchange the hose	"E2"
			Inspect any openings	Exchange the hose	"E2"
		Blockages in pressure sensor hoses	Inspect with naked eyes	Remove impurities	"E2"
Occurrence of "E9"	The water level sensor transmits the frequency of 15KHz or lower or 30KHz or higher.	Disconnected connector	Inspect the connection of connector with naked eyes	Re-insert	"E9"
		Defect in water level sensor	Check the frequency	Exchange the water level sensor	"E9"
		Disconnected wire	Inspect the wire connection -> Inspect the circuit		"E9"



6. Specifications, Operation, and Defect Inspection of Door Lock Switch

1) Specifications of Door Lock Switch

TYPE	Part Code	Model	Power	Locking Mechanism
DF F01 007 DWD-M300WA	36169047230	DWD-M301WP	250V 16A	Bimetal operation on the PTC heat

Lock "On/Off" Time	Lock Off Type	Configuration
1. Forced unlocking by Solenoid	1. Forced unlocking by Solenoid	

2) Defect Inspection of Door Lock Switch

Defects and Errors	Details	Causes	Inspection of Defects and Errors	Resolution	Error Mode
A single "snapping" sound or two consecutive "snapping" sounds	A single "snapping" sound and two consecutive "snapping" sounds occur during the early operation and in the pause mode respectively: Applicable to "DF" type only	Normal noise	The noise is caused by the operation of solenoid to lock or unlock the "sliding cam" to lock or unlock the door.		-
Occurrence of "LE" Error	"LE" error occurs as the "snapping" sound continues to occur: Applicable to "DE" type only	Disconnected connector	Inspect the connection of connector with naked eyes	Insert connector	"LE"
		Terminal disconnected from connector	See the disassembly and inspection manual for door lock switch below	Insert terminal: S/W No.4 or 5 terminal	"LE"
		Door poorly closed	-	Close the door completely	"LE"
		Defect in door hook	-	Exchange the door	"LE"
	1. "LE" error occurs without any "snapping" sounds in "DF" type.	Defect in catch cam	The abnormal "snapping" sound continues to occur.	Exchange the door switch	"LE"
		Disconnected connector	Inspect the connection of connector with naked eyes	Insert connector	"LE"
	2. "LE" error occurs in "DA" type.	Terminal disconnected from connector	See the disassembly and inspection manual for door lock switch below	Insert terminal: S/W No.2 or 3 terminal	"LE"
		Disconnected solenoid coil	See the picture below	Exchange the door switch	"LE"
		Disconnected connector	Inspect the connection of connector with naked eyes	Insert connector	"LE"
		Terminal disconnected from connector	See the disassembly and inspection manual for door lock switch below	Insert terminal: S/W No.2 or 3 terminal	"LE"

Defects and Errors	Details	Causes	Inspection of Defects and Errors	Resolution	Error Mode
Non-openable Door	Power cutoff or forced shutdown during operation	After the "power cutoff" or "forced shutdown" during operation, "PCB MICOM" is not able to open the door. At least 5 minutes must pass before the door becomes openable.			
	The washer is "ON" without any power cutoffs.	Water in tub	Check whether the water level is above the safety level.		
		High temperature in tub	The door is automatically locked to prevent damage from hot laundry after the spin cycle is complete.		
	Others		The door is automatically locked when the connector, terminal, or solenoid wire gets disconnected during operation. The following instructions must apply to inspect defects.		

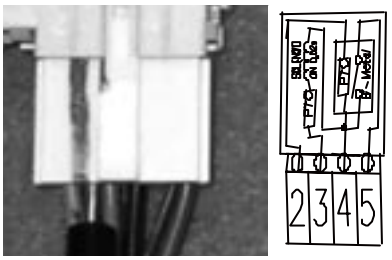
* Exchange of Door Lock Switch

[Disassembly]
1. Remove 4 body-fixing screws
2. Remove the detergent and softener containers
3. Remove 2 screws fixing the door hinge
4. Remove 6 cover screws fixing the cover tub
5. Remove 6 screws fixing the cover tub
6. Remove 2 screws fixing the door lock switch
7. Detach the door lock switch and F-PCB connector

[Assembly]
Re-assemble the parts in the opposite sequence to disassembly .

* Check the wire connections in Door Lock Switch

PIN Arranage ment



2 3 4 5
(No.1 wire unavailable)

7. Specifications and Assembly of Cord Power Assy

1) Specifications

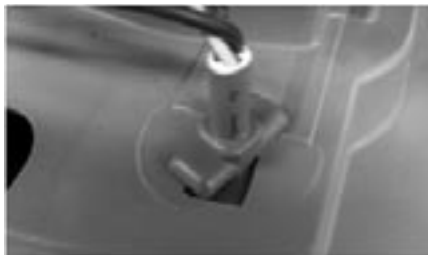
Category	Power	Color	Part Code	Type	Length	Note
1	250V 16A	GRAY	3611308100	H05W-F, 3G, 1.5mm²	3.0 M	-
2	250V 16A	GRAY	3611308200	H05W-F, 3G, 1.5mm²	5.0 M	-

2) Specifications and Major Test Items

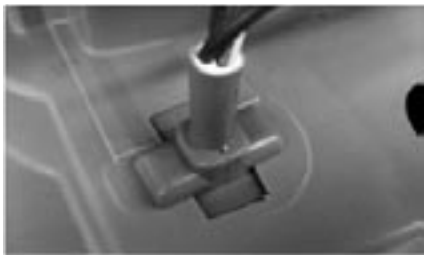
- Size of conductor: 1.5mm2
- Thickness of sheath: 0.8mm
- Thickness of insulator: 0.6mm
- External diameter of insulator: 8.4±1mm

3) Assembly

- Before fastening



- After fastening



7. Installation

The washer is recommended to be installed by a professional service engineer.

Before installation **Install the washer without plugging in the power cord.**

After installation **Perform a test run to identify any water leaks or abnormal noise.**

1. Determine the location for installation

- Determine the installation site after discussing the site structure with the customer.

* Breast-high location is convenient for installation.
* Installation and use are convenient with access to water supply, drainage, and electric outlets.

2. Inspect wall

- Knock on the wall with your hand to check the existence of retaining wall inside.

* Install the washer on an even wall.

3. Attach installation instruction manual

- Use a level meter for attachment.
- Attach a guide and mark the hole spot.

* Attach the manual in consideration of actual product size.

4-1. Drill a hole through tile

- Notch below the marking hole.
- Drill a hole perpendicular to the wall surface.

* Do not drill a hole on the edge of wall tile.
* Do not drill a hole right below the faucet.

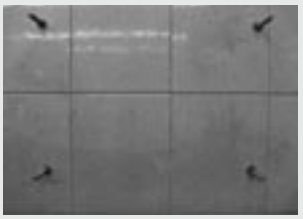
4-2. Drill a hole into the retaining wall

- Set the hammer drill perpendicular to the wall surface and then drill a hole into the retaining wall.

* Follow the instructions on the diameter and depth specifications for the hole.
* Remove dirt from inside the hole.

5. Insert set anchors (4 holes)

- Insert set anchors into holes.
- Set anchors are included in the product package.



* Insert set anchors to the end of holes.
* The set anchor bolt must be 75mm long or longer above the wall.

6. Fix set anchors

- Fix set anchors with an anchor hammer.

* Redo the fixation if the anchor cap protrudes above the wall surface after fixation.

7. Connect inlet and drain hoses

- Insert the inlet hose until the elbow makes a snapping sound.
- Connect the clamp inside the synchronous motor after fixing the drain house to the synchronous motor.

<Check filter_Option>

* Connect hoses properly to prevent leaks.
* Insert the inlet/drain hoses into the back holes after connection.

8. Connect the power cord

- Connect the power cord as requested by the customer (upward, downward).
- Attach a connector and fix the grounding wire.

* Fix the upward power cord tight with clamp cords.
* Fix the grounding wire with grounding screws.
* Do not ground multiple grounding wires in a single place.

9. Organize hoses

- Place hoses in the hole.

* Prevent the hoses from becoming jammed between the wall and washer.

10. Inject chemical anchor and insert cushion pads

- Inject chemical anchor into the fixed set anchors.
- Insert cushion pads on the fixed anchors.
- Attach pads to the wall.

11. Install the washing machine

- Install the washer on the surface of wall so as not to create a large gap.

12. Fix the washing machine

- Connect the fixing nut (1EA) after inserting the flat washer (1EA) and spring washer (1EA) and then connecting a regular nut (1EA).
- Fasten the nut with ø14 spanner.

* Excessive fastening of nut may destroy the product or wall tile.
* Fixing nut must be fastened tight.

13-1. Install the inlet hose - Regular faucet

① Lock the water supply valve
② Disassemble the water supply valve
③ Install the branching adapter
④ Branch off the inlet hose

* Wrap the connection of branching adapter and water supply valve with Teflon tape.
* Examine whether a water leak occurs after instillation.

13-2 Install the inlet hose - Kitchen sink, shower

① Lock the water supply valve
② Disassemble the water supply valve
③ Install the branching adapter
(Install adapters respectively on cold and hot water taps)
④ Branch off the inlet hose

<Additional Parts>

13-3 Install the inlet hose - Underground water pipe, obsolete pipe

① Install the nozzle AS (skip at the obsolete pipe)
② Install the branching adapter
③ Connect the inlet hose

* Examine whether a water leak occurs after instillation.

13-4. Install Water filter inlet (option)

① Install union connector
② Install filter inlet
③ Branch off the inlet hose

* Install Install fiter inlet near the water supply valve
* Examine whether a water leak occurs after instillation.

Follow the installation instructions to install the washer more conveniently.

14. Test Operation

- Run a test operation to identify any malfunctions or leaks.

15. Organize inlet and drain hoses and power cord

- Organize inlet and drain hoses and power cord with molding and hose guide.

* Wipe the attachment area clean with a dry cloth and then attach the molding and hose guides tightly.

16. Mount the body

- Connect 4 nuts and bolts above and below after mounting the body.

* Check whether any cleavages exist on both sides.

참고

Wall Type	Depth of Hole	Bit diameter of hammer drill	Bit diameter of tile hole
Concrete	45mm	ø 13mm	-
Tile	Distance between tile and retaining wall + 45mm		ø 14mm

경 고

▶ **Grounding is required to prevent electric shocks. Check the availability of circuit breaker.**
- Contact the sales store or service center for further details.

▶ **If the power outlet has no grounding terminal:**
- Grounding must apply for the safe use of washer.
- Grounding is performed by the service center engineers or qualified personnel only.
- Contact your nearby service center for details.

▶ **Grounding is prohibited in the following locations.**
- Gas pipe (It has the risk of explosion or fire)
- Phone wire or lightning rod (It is risky when struck by lightning)
- Water pipe (Many water pipes are made of plastic materials)

Exchange of Power Cord — **If a power cord is broken, you should contact the sales store or service center as a special tool is required.**

Relocation — **Contact the service center to relocate the installation. (Additional charge applies)**

DAEWOO ELECTRONICS

ABOUT THIS MANUAL

VISION CREATIVE, INC.
서울 종로구 통의동
6번지 이룸빌딩 4층

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연락처
VISION 담 당 방 문 수
TEL: 730-0660 FAX: 730-3788