CAUTION
READ THIS MANUAL CAREFULLY TO DIAGNOSE TROUBLE CORRECTLY BEFORE OFFERING SERVICE.

MODEL : WD-1***(0-9)ND(K)/TD(K)/FD(K)
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</tr>
</tbody>
</table>
## 1. SPECIFICATIONS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>WD-1***(0~9)ND(K)</th>
<th>WD-1***(0~9)TD(K)</th>
<th>WD-1***(0~9)FD(K)</th>
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<tbody>
<tr>
<td><strong>POWER SUPPLY</strong></td>
<td></td>
<td>220-240V~, 50Hz</td>
<td></td>
</tr>
<tr>
<td><strong>PRODUCT WEIGHT</strong></td>
<td>59 kg</td>
<td>58 kg</td>
<td>64 kg</td>
</tr>
<tr>
<td><strong>ELECTRICITY CONSUMPTION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WASHING</td>
<td>135W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPIN (1400rpm)</td>
<td>530W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRAIN MOTOR</td>
<td>32W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WASH HEATER</td>
<td>2000W</td>
<td>2100W</td>
<td>2100W</td>
</tr>
<tr>
<td><strong>REVOLUTION SPEED</strong></td>
<td></td>
<td>50rpm</td>
<td></td>
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<tr>
<td>WASH</td>
<td>WD-10**(0<del>9)ND(K)/TD(K)/FD(K) No Spin</del>1000 rpm</td>
<td>WD-12**(0<del>9)ND(K)/TD(K)/FD(K) No Spin</del>1200 rpm</td>
<td>WD-14**(0<del>9)ND(K)/TD(K)/FD(K) No Spin</del>1400 rpm</td>
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<tr>
<td>SPIN</td>
<td>WD-16**(0<del>9)ND(K)/TD(K)/FD(K) No Spin</del>1600 rpm</td>
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<td></td>
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<tr>
<td><strong>OPERATION WATER PRESSURE</strong></td>
<td>0.3-10kgf/cm² (30-1000kPa)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CONTROL TYPE</strong></td>
<td>Electronic</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WASH CAPACITY</strong></td>
<td>Cotton (Refer to the rating label)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DIMENSION</strong></td>
<td>600mm(W)x440mm(D)x850mm(H)</td>
<td>600mm(W)x550mm(D)x850mm(H)</td>
<td>600mm(W)x600mm(D)x850mm(H)</td>
</tr>
<tr>
<td><strong>DOOR SWITCH TYPE</strong></td>
<td>Bi-Metal type</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WATER LEVEL</strong></td>
<td>9 steps (by sensor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RESERVATION</strong></td>
<td>From 3 hours to 19 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SENSING OF THE LAUNDRY AMOUNT</strong></td>
<td>Available</td>
<td></td>
<td></td>
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<tr>
<td><strong>FUZZY LOGIC</strong></td>
<td>Available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DISPLAY OF THE REMAINING TIME</strong></td>
<td>Available</td>
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<td></td>
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<tr>
<td><strong>ERROR DIAGNOSIS</strong></td>
<td>10 items</td>
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<tr>
<td><strong>POWER AUTO OFF</strong></td>
<td>Available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CHILD LOCK</strong></td>
<td>Available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AUTO RESTART</strong></td>
<td>Available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. FEATURES & TECHNICAL EXPLANATION

2-1. FEATURES

- **Anti Crease function**
  With the alternate rotation of the drum, creasing in the laundry is minimized.

- **More economical by Fuzzy Logic System**
  FUZZY Logic System detects the amount of load and water temperature, and then determines the optimum water level and washing time to minimize energy and water consumption.

- **Child-Lock**
  The Child-Lock system has been developed to prevent children from pressing any button (except Power button) to change the programme during operation.

- **Low noise speed control system**
  By sensing the amount of load and balance, this system automatically distributes load evenly to minimize the spinning noise level.

- **Direct Drive System**
  The advanced Brushless DC motor rotates the drum directly without a belt and a pulley.

- **Built-in heater**
  Internal heater automatically heats the water to the best temperature on selected cycles.
2-2. DETERMINE WASHING TIME BY FUZZY LOGIC

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

2-3. WATER LEVEL CONTROL

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

2-4. THE DOOR CAN NOT BE OPENED

- While program is operating.
- While Door Lock light turns on.
3. PARTS IDENTIFICATION

- Power plug: If the supply cord is damaged, it must be replaced by the manufacturer or its service agents or a similarly qualified person in order to avoid a hazard.
- Drawer: For detergent and fabric softener
- Door
- Lower cover
- Adjustable feet
- Control panel
- Drum
- Drain pump filter
- Drain plug
- Lower cover cap

■ ACCESSORIES

- Inlet hose (1EA) • Option: Hot / Cold (2EA)
- Spanner
4. INSTALLATION

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

STANDARD INSTALLATION
The appliance should be installed as follows.

<table>
<thead>
<tr>
<th>REMOVE THE TRANSIT BOLTS</th>
<th>INSTALL THE APPLIANCE ON FLAT AND FIRM SURFACE</th>
<th>ADJUST THE HORIZONTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Remove the transit bolts (4EA:①) with supplied wrench.</td>
<td>![Diagram of installing appliance on a flat and firm surface]</td>
<td>• Turn the adjustable feet to set the appliance horizontally.</td>
</tr>
<tr>
<td>• Keep the transit bolts and wrench for future use.</td>
<td>![Diagram of adjusting the feet]</td>
<td>• The appliance goes up by rotating the feet clockwise.</td>
</tr>
<tr>
<td>• Insert the 4 caps provided into the hole.</td>
<td>![Diagram of adjusting the feet]</td>
<td>• The appliance comes down by rotating the feet counterclockwise.</td>
</tr>
</tbody>
</table>
■ HOW TO CONNECT INLET HOSE

- Check that the rubber is the inside of valve connector.
- Connect inlet hoses firmly to prevent leak.

■ CONNECT DRAIN HOSE

- Make sure that the hose is not twisted.
- Avoid submerging the end of the hose.

※ The drain hose should be placed under 100cm from the floor.

■ CONNECT POWER PLUG

- Connect the power plug to the wall outlet.
- Avoid connecting several electric devices, it may be the cause of a fire.
**TEST OPERATION**

1. **Preparation for washing.**
   - Connect the power plug to the outlet.
   - Connect the inlet hose.

2. **Press the power button.**
   - In case of cotton program.

3. **Press the START/PAUSE button.**

4. **Check the water supply.**
   - Check if water is supplied through the detergent dispenser.

5. **Check automatic reverse turn.**
   - Check if the drum rotates clockwise and counterclockwise.

6. **Check the water heating.**
   - Press both **Time Delay** and **Pre Wash** buttons simultaneously the present temperature will be displayed.

7. **Check drain and spin**
   - Power off and then power on.
   - Turn on Spin lamps after pressing the Start/Pause button and Start the machine again.
   - Check drain and spin.

8. **Power off and open the door**
   - Power off and then power on.
   - Check if the door can be opened after **Door Lock** lamp turns off.

9. **Water removal**
   - If SVC is needed during check, remove the remaining water by pulling out the hose cap.
5. OPERATION

**Eco**
- It is possible in cotton course when 60°C

**LED display**
- Display the estimated remaining time (Hour : Minute) to finish.
- In case of abnormal operation, error indications are displayed.
  (Error Indications: OE, UE, dE, LE, FE, PE, CE, LE, RE, PF)
- See troubleshooting guide.

**Wash program selector**
- 10 programs can be set depending on the type of the laundry.
- If the power button is pressed, all lamps are on.
- By turning the dial, [Cotton–Eco Synthetic–Quick 30–Rinse+Spin–Hand Wash/Wool–Delicate–Bedcover–Bio Care–Baby Care] can be selected. (The opposite is possible)

**Start/Pause button**
- Use the button to start or pause wash cycle.
- The power turns off automatically 4 minutes after the pause button is pressed.

**Spin**
- WD-1036(0~9)SD(K)/1036(0~9)ND(K)/1036(0~9)TD(K)  No Spin/No Drain/400/600/800/900/1000
- WD-1236(0~9)SD(K)/1236(0~9)ND(K)/1236(0~9)TD(K)  No Spin/No Drain/400/600/800/1000/1200
- WD-1436(0~9)SD(K)/1436(0~9)ND(K)/1436(0~9)TD(K)  No Spin/No Drain/400/600/800/1000/1400
∗ QC Test Mode
- Press Medic Rinse and Rinse+ and Power buttons simultaneously

∗ Water level frequency buttons
- Press Time Delay and Medic Rinse simultaneously

---

**Time Delay**

- Press the button when reservation washing is needed.
- When the button is pressed, [3:00] is displayed, maximum delay of [3:00] hours can be set.
- Each press advances time delay by the hour.
- Use [Power] button to cancel [Time Delay]
- [Time Delay] means the time required from the present to the completion of washing.

**Child - Lock**

- Child Lock system can be set and canceled by pressing and holding both Medic Rinse button and Intensive button simultaneously more than 3 seconds.
- Once Child Lock is set, all buttons are not functioning except power button.
- Child Lock system can be set anytime even during Power-off and operation.
- It is automatically cancelled when an operational error occur.

---

**Option**

- **Medic Rinse**: Function that offers more purity in rinse operation by maintaining the optimum temperature for elimination of remnant detergent. It can be selected in all courses with the exception of Quick 30. Hand Wash/Wool, Delicate course.
- **Intensive**: If the laundry is heavily soiled “Intensive” option is effective.
  - By selecting the Intensive option, the wash time may be extended, depending on the program selected.
- **Rinse+**: If you wish to rinse more, the Rinse+ option will remove any trace of detergents.
- **Pre Wash**: If the laundry is heavily soiled, “Pre Wash” course is effective.
  - Pre Wash is available in Cotton and Synthetic Program.
- **Crease Care**: If you want to prevent crease, select this button with spin

---

**Power button**

- Press the button to turn power on and off.
- Press the button to cancel the time delay.
Wash program selector

- 9 program can be set depending on the type of the laundry.
- If the power button is pressed, Cotton program is automatically set.
- By turning the dial, [Cotton, Cotton-Eco, Synthetic, Delicate, Wool/Silk, Hand Wash, Quick 30, Duvet, Baby Care] can be selected.
  (The opposite is possible)

LED display

- Display the estimated remaining time (Hour : Minute) to finish.
- In case of abnormal operation, error indications are displayed.
  (IE UE UE EE FE PE CE LE REPF)
- See troubleshooting guide.

POWER button

- Use this button to turn the power On/Off

Start/Pause button

- Use the button to start or pause wash cycle.
- The power turns off automatically 4 minutes after the pause button is pressed.
**QC Test Mode**
- Press Option and Spin and Power buttons simultaneously

**Water level frequency buttons**
- Press Time Delay and Temp. simultaneously

---

### Time Delay
- Press the button when delayed washing is needed.
- When the button is pressed, \( \text{Time Delay} \) is displayed, maximum delay of 30 hours can be set.
- Each press advances time delay by the hour.
- Use [Power] button to cancel [Time Delay].
- [Time Delay] means the time required from the present to the completion of washing.

### STATUS INDICATOR
- These lights show which portion of the cycle the washer is operating.

### INTENSIVE
- If the laundry is heavily soiled “Intensive” option is effective.
- By selecting the Intensive option, the wash time may be extended, depending on the program selected.
- To use this option press the Intensive button once before the wash program is started.

---

### Child - Lock
- Child Lock system can be set and canceled by pressing and holding both [Rinse] and [Option] button simultaneously more than 2 seconds.
- Once Child Lock is set, all buttons are inoperable except power button.
- Child Lock system can be set anytime even during Power-off and operation.
- It is automatically cancelled when an operational error occur.

### OPTION button
- Pre Wash: Use this option for loads that need pretreatment. It add 16 minutes pre wash and drain.
- Rinse+Spin: Use this option to rinse and then spin.
- Soak: Use this mode to wash normal clothes or think and heavy clothes which are excessively dirty.
- Spin Only: When you want Spin only, select this option.
- Bio: If you want to eliminate protein stains, you may select Bio function.

### Rinse, Spin, Temp., Button
- Select a water temperature based on the type of load you are washing.
- To change the spin speed, press the Spin Speed button repeatedly to cycle through available options.
- To change the soil level, press the Soil Level button repeatedly until the desired setting is on.
**Wash program selector**

- 9 programs can be set depending on the type of laundry.
- If the power button is pressed, all lamps are on.
- By turning the dial, [Cotton–Eco–Synthetic–Quick 30–Rinse+Spin–Hand Wash/Wool–Delicate–Bedcover–Bio Care–Baby Care] can be selected. (The opposite is possible)

**LCD display**

- Display the program and estimated remaining time (Hour : Minute) to finish.
- In case of abnormal operation, error indications are displayed. (IE, CE, UE, dE, tE, FE, PE, cE, tE, RE, PF)
- See troubleshooting guide.

**Water temperature selector**

- By turning the dial select water temperature.

**Start/Pause button**

- Use the button to start or pause wash cycle.
- The power turns off automatically 4 minutes after the pause button is pressed.

**Intensive**

- If the laundry is heavily soiled “Intensive” option is effective.
- By selecting the Intensive option, the wash time may be extended, depending on the program selected.

**Rinse Hold**

- Is selected by pressing the Rinse Hold button this function leaves clothes in the machine; suspended in the water after a rinse without entering into spin.
- To proceed through to a drain or spin, once the rinse hold function is completed using to program dial scroll to the required program. (Spin)
**Medic Rinse**
- Function that offers more purity in rinse operation by maintaining the optimum temperature for elimination of remnant detergent. It can be selected in all courses with the exception of Quick 30, Hand Wash/Wool, Delicate course.

**Pre Wash**
- If the laundry is heavily soiled, “Pre Wash” course is effective.
- Pre Wash is available in Cotton and Synthetic.

**Crease Care**
- If you want to prevent crease, select this button with spin speed.

**Time Delay**
- Press the button when delayed washing is needed.
- When the button is pressed, \( 3:00 \) is displayed, maximum delay of \( 9:00 \) hours can be set.
- Each press advances time delay by the hour.
- Use [Power] button to cancel [Time Delay]
- [Time Delay] means the time required from the present to the completion of washing.

**Spin button**
- By pressing the Spin button the spin speed can be chosen.

**Power button**
- Press the button to turn power on and off.
- Press the button to cancel the delay finish.

**Child - Lock**
- Child Lock system can be set and canceled by pressing and holding both [Medic care Rinse] and [Pre Wash] buttons simultaneously more than 2 seconds.
- Once Child Lock is set, all buttons are inoperable except power button.
- Child Lock system can be set anytime even during Power-off and operation.
- It is automatically cancelled when an operational error occur.
Child - Lock

- Child Lock system can be set and canceled by pressing and holding both Medic Rinse button and Pre Wash button simultaneously more than 3 seconds.
- Once Child Lock is set, all buttons are not functioning except power button.
- Child Lock system can be set anytime even during Power-off and operation.
- It is automatically cancelled when an operational error occur.

Wash program selector

- 10 programs can be set depending on the type of the laundry.
- If the power button is pressed, all lamps are on.
- By turning the dial, [Cotton – Cotton Quick – Synthetic – Bedcover – Bulky – Quick 30 – Rinse+Spin – Spin – Delicate – Hand Wash/Wool, Bio Care – Boiling Care – Baby Care] can be selected. (The opposite is possible)

Option

- Medic Rinse: Function that offers more purity in rinse operation by maintaining the optimum temperature for elimination of remnant detergent. It can be selected in all courses with the exception of Quick 30, Hand Wash/Wool, Delicate course.
- Intensive: • If the laundry is heavily soiled “Intensive” option is effective.
  • By selecting the Intensive option, the wash time may be extended, depending on the program selected.
- Pre Wash: If the laundry is heavily soiled, “Pre Wash” course is effective.
  Pre Wash is available in Cotton and Synthetic Program.
- Crease Care: If you want to prevent crease, select this button with spin.
**LED display**
- Display the estimated remaining time (Hour : Minute) to finish.
- In case of abnormal operation, error indications are displayed. (IE, OE, UE, dE, tE, FE, PE, CE, LE, RE, PF)
- See troubleshooting guide.

**Time Delay**
- Press the button when reservation washing is needed.
- When the button is pressed, [ ] is displayed, maximum delay of [ ] hours can be set.
- Each press advances time delay by the hour.
- Use [Power] button to cancel [Time Delay]
- [Time Delay] means the time required from the present to the completion of washing.

**Water temperature selector**
- Press the button to select water temperature.
- The water temperature [60°C → 95°C → Cold → 30°C → 40°C] can be selected in Cotton.
- 95°C is selected for Cotton, Bedcover, Bio Care, Boiling Care, Baby Care programs.

**Power button**
- Press the button to turn power on and off.
- Press the button to cancel the time delay.

**Spin**
- WD-1039(0-9)SD(K)/1039(0-9)ND(K)/1039(0-9)TD(K)
  - No Spin/Rinse Hold/400/800/1000
- WD-1239(0-9)SD(K)/1239(0-9)ND(K)/1239(0-9)TD(K)
  - No Spin/Rinse Hold/400/800/1200
- WD-1439(0-9)SD(K)/1439(0-9)ND(K)/1439(0-9)TD(K)
  - No Spin/Rinse Hold/400/800/1400

**Start/Pause button**
- Use the button to start or pause wash cycle.
- The power turns off automatically 4 minutes after the pause button is pressed.

**QC Test Mode**
- Press Spin and Temp. and Power buttons simultaneously

**Water level frequency buttons**
- Press Intensive and Crease Care simultaneously
Wash program selector

- 8 programs can be set depending on the type of laundry.
- If the power button is pressed, Cotton program is automatically set.
- By turning the dial, [Cotton–Delicate–Quick 30–Rinse+Spin–Spin–Hand Wash/Wool–Synthetic–Baby Care] can be selected. (The opposite is possible)

LED display

- Display the estimated remaining time (Hour : Minute) to finish.
- In case of abnormal operation, error indications are displayed. (IE, DE, UE, dE, tE, FE, PE, CE, tE, tE)
- See troubleshooting guide.

Water temperature selector

- Press the button to select water temperature.
- 95°C is selected for Cotton and Baby Care only.
- By pressing the button while operating the washer, the present temperature is displayed.

Start/Pause button

- Use the button to start or pause the wash cycle.
- The power turns off automatically 4 minutes after the pause button is pressed.

Spin Dial

- By turning the Spin dial, the spin speed can be chosen.

Intensive

- If the laundry is heavily soiled, the "Intensive" option is effective.
- By selecting the Intensive option, the wash time may be extended, depending on the program selected.
- This option is not available with the Quick 30 program.

Rinse+

- For additional rinse which may assist in removing traces of detergent residue.
- By selecting Rinse+ function, the rinse time and the rinse water are increased.
• If the laundry is heavily soiled, “Pre Wash” course is effective.
• Pre Wash is available in Cotton, Synthetic and Baby Care.

For high effectiveness or more purity in rinse operation you can choose Medic care Rinse option.

• Medic Rinse

• Power button

• Child Lock system can be set and canceled by pressing and holding both [Rinse+] and [Pre Wash] buttons simultaneously more than 2 seconds.
• Once Child Lock is set, all buttons are inoperable except power button.
• Child Lock system can be set anytime even during Power-off and operation.
• It is automatically cancelled when an operational error occur.

• Time Delay

• Child - Lock

• Press the button when delayed washing is needed.
• When the button is pressed, 3:00 is displayed, maximum delay of 15 hours can be set.
• Each press advances time delay by the hour.
• Use [Power] button to cancel [Time Delay]
• [Time Delay] means the time required from the present to the completion of washing.

• Press the button to turn power on and off.
• Press the button to cancel the delay finish.

• If the laundry is heavily soiled, “Pre Wash” course is effective.
• Pre Wash is available in Cotton, Synthetic and Baby Care.
### 6. WIRING DIAGRAM / PROGRAM CHART

**About 1:55(53)**

**About 1:17**

**About 52**

**About 1:29**

**About 49**

**About 30**

**About 2:27(25)**

**About 2:24<2:14>**

---

**Cotton**

**Synthetic**

**Quick 30**

**Delicate**

**Bedcover**

**Hand Wash/Wool**

**Bio Care**

---

**Washing**

<table>
<thead>
<tr>
<th>Cycle Step</th>
<th>Pre</th>
<th>Main</th>
<th>Rinse</th>
</tr>
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<tbody>
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<td>1</td>
<td>W</td>
<td>S</td>
<td>I</td>
</tr>
<tr>
<td>2</td>
<td>S</td>
<td>I</td>
<td>S</td>
</tr>
<tr>
<td>3</td>
<td>I</td>
<td>S</td>
<td>I</td>
</tr>
<tr>
<td>4</td>
<td>S</td>
<td>I</td>
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**Spin**

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<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>1</td>
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</tr>
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<td>3</td>
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</table>

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**WIRING DIAGRAM/PROGRAM CHART**


<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medic Rinse</strong></td>
<td>Function that offers more purity in rinse of feracion by maintaining the optimum temperature for elimination of remnant detergent. It can be selected in all courses with the exception of Quick 30. Hand wash/Wool, Delicate course.</td>
</tr>
<tr>
<td><strong>Intensive</strong></td>
<td>If the laundry is heavily soiled “Intensive” option is effective.</td>
</tr>
<tr>
<td><strong>Pre Wash</strong></td>
<td>If the laundry is heavily soiled, “Pre Wash” course is effective. Pre Wash is available in Cotton and Synthetic Program.</td>
</tr>
<tr>
<td><strong>Crease Care</strong></td>
<td>If you want to prevent crease, select this button with spin</td>
</tr>
</tbody>
</table>

---

**Normal Working Time (Hour/Minute)**

<table>
<thead>
<tr>
<th>Cycle Step</th>
<th>Normal Working Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>About 1:55(53)</td>
</tr>
<tr>
<td>2</td>
<td>About 1:17</td>
</tr>
<tr>
<td>3</td>
<td>About 52</td>
</tr>
<tr>
<td>4</td>
<td>About 1:29</td>
</tr>
<tr>
<td>5</td>
<td>About 49</td>
</tr>
<tr>
<td>6</td>
<td>About 30</td>
</tr>
<tr>
<td>7</td>
<td>About 28(24)</td>
</tr>
<tr>
<td>8</td>
<td>About 2:27(25)</td>
</tr>
<tr>
<td>9</td>
<td>About 22:14</td>
</tr>
</tbody>
</table>

---

* Basic Cycle  
* Optional Cycle  
* Pre-Setting Time : Water Supply - 120 sec.  
* Drain - 60 sec.  
* ~ Time for varies as the temperature or the amount of laundry  
* Basic time is minute in washing chart  
* The actual program time can be varied with the load amount, water temperature or ambient temperature
7. TROUBLESHOOTING

7-1. BEFORE PERFORMING SERVICE

- Be careful of electric shock or disconnecting the parts while trouble shooting.
- Voltage of each terminal in 220-240V~ and DC while applying an electric current.

7-2. QC TEST MODE.

① Refer to the page 10~20.
② Press Power with above two buttons pressed and then buzzer will sound.
③ Press the Start/Pause button as follows.
   [Press the Start/Pause button more 4 times until stop spinning]

<table>
<thead>
<tr>
<th>Pressing number of [Start/Pause] button</th>
<th>Checking Point</th>
<th>Display Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>All lamps turn on</td>
<td>:8:8:8</td>
</tr>
<tr>
<td>1 time</td>
<td>Clockwise spin (right)</td>
<td>Motor rpm (About 47)</td>
</tr>
<tr>
<td>2 times</td>
<td>Low speed Spin</td>
<td>Motor rpm (About 590–650)</td>
</tr>
</tbody>
</table>
| 3 times                                | High speed Spin                          | Motor rpm (About 950–1050) : WD-10****N(T)(F)(K)
                                           |                           | Motor rpm (About 1100–1250) : WD-12****N(T)(F)(K)
                                           |                           | Motor rpm (About 1350–1400) : WD-14****N(T)(F)(K) |
| 4 times                                | Inlet valve for pre-wash operation       | Water level frequency (225–265) |
| 5 times                                | Inlet valve for main-wash operation      | Water level frequency (225–265) |
                                           | Hot inlet valve in case of hot water fill |                     |
| 6 times                                | Inlet valve for main-wash operation      | Water level frequency (225–265) |
| 7 times                                | Counterclockwise spin (left)             | Motor rpm (About 47) |
| 8 times                                | A Heater is in operation for 3 sec.      | Water Temperature    |
| 9 times                                | Draining pump operation                  | Water level frequency |
| 10 times                               | Auto off operation                       |                      |

7-3. HOW TO KNOW THE WATER LEVEL FREQUENCY

② Refer to the page 10~20.

- The digits means water level frequency (10¹ kHz)
- ex) 241 : Water level frequency = 241 × 10⁻¹kHz = 24.1kHz

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7-4. ERROR DISPLAY.

- If you press the [Start/Pause] button when an error is displayed, any error except S/W ERROR will disappear and the machine will change into pause status.
- In case of \( \text{PE}_1 \), \( \text{SE}_1 \), \( \text{dE}_1 \), if the error is not resolved within 15 sec. In case of other errors, if the error is not resolved within 4 min. Power will be turned off automatically and the error only will be blinked. But in the case of \( \text{FE}_1 \), power will not be turned off.

<table>
<thead>
<tr>
<th>ERROR</th>
<th>SYMPTOM</th>
<th>CAUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 WATER INLET ERROR</td>
<td>![IE]</td>
<td>○ Water has not reached to the pre-set level within 4 min. since inlet valve operated, or water has not reached to the normal level within 25 min.</td>
</tr>
<tr>
<td>2 IMBALANCE ERROR</td>
<td>![UE]</td>
<td>○ The appliance is tilted.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Laundry is gathered to one side.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Non distributable things are put into the drum.</td>
</tr>
<tr>
<td>3 DRAIN ERROR</td>
<td>![DE]</td>
<td>○ Water has not drained enough within 8 min.</td>
</tr>
<tr>
<td>4 OVERFLOW ERROR</td>
<td>![FE]</td>
<td>○ Water is automatically being pumped out because too much water is in the tub.</td>
</tr>
<tr>
<td>5 SENSOR PRESSURE S/W ERROR</td>
<td>![PE]</td>
<td>○ The sensor pressure switch is out of order.</td>
</tr>
<tr>
<td>6 DOOR OPEN ERROR</td>
<td>![dE]</td>
<td>○ The [Start/Pause] button is pressed with the door open.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ The door switch is out of order.</td>
</tr>
<tr>
<td>7 HEATING ERROR</td>
<td>![bE]</td>
<td>○ The thermistor is out of order.</td>
</tr>
<tr>
<td>8 CURRENT ERROR</td>
<td>![CE]</td>
<td>○ PWB ASSEMBLY (Main) is out of order</td>
</tr>
<tr>
<td></td>
<td></td>
<td>◂ Replace the PWB assembly (Main)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>◂ Winding in the MOTOR is short-circuited.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>◂ Replace the MOTOR</td>
</tr>
<tr>
<td>9 LOCK ERROR</td>
<td>![LE]</td>
<td>○ The Connector (3-pin, male, white) in the wire harness is not connected to the Connector (3-pin, female, white) of MOTOR.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>◂ Reconnect or repair the connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ The electric contact between the connectors [3-pin, male, white in the wire harness and 6-pin, female, white in the PWB ASSEMBLY (Main)] is bad or unstable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>◂ Reconnect or repair the contact in the connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ The wire harness between the MOTOR and PWB ASSEMBLY (Main) is cut (open circuited).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ The hall sensor is out of order/defective.</td>
</tr>
<tr>
<td>10 POWER FAILURE</td>
<td>![PF]</td>
<td>○ The washer experienced a power failure.</td>
</tr>
</tbody>
</table>
### 8. ERROR DIAGNOSIS AND CHECK LIST

#### 8-1. DIAGNOSIS AND ANSWER FOR ABNORMAL OPERATION

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>GUIDE FOR SERVICE CALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO POWER</td>
<td>Is the power plug connected firmly to 220-240V~ outlet?</td>
</tr>
<tr>
<td></td>
<td><strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td>Power failure? or Breaker opened? Is the outlet controlled by a switch.</td>
</tr>
<tr>
<td></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>Visit to check</td>
</tr>
<tr>
<td>Water inlet trouble</td>
<td>Is $iE$ displayed?</td>
</tr>
<tr>
<td></td>
<td><strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td>Is the tap opened?</td>
</tr>
<tr>
<td></td>
<td><strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td>Is the tap frozen?</td>
</tr>
<tr>
<td></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>Is the water supply shut-off?</td>
</tr>
<tr>
<td></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>Is filter in the inlet valve clogged with foreign material?</td>
</tr>
<tr>
<td></td>
<td><strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td>Clean the filter of inlet valve</td>
</tr>
<tr>
<td></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>Visit to check</td>
</tr>
</tbody>
</table>
**SYMPTOM GUIDE FOR SERVICE CALL**

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>GUIDE FOR SERVICE CALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOOR OPEN ERROR</td>
<td></td>
</tr>
<tr>
<td>Refer to 7-4 ERROR DISPLAY</td>
<td>Did you press the Start/Pause button when the door is open?</td>
</tr>
<tr>
<td></td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td>Visit to check</td>
</tr>
<tr>
<td></td>
<td>Close the door</td>
</tr>
<tr>
<td></td>
<td>Check if the door switch is O.K</td>
</tr>
<tr>
<td>Drain Trouble</td>
<td>Is OE displayed?</td>
</tr>
<tr>
<td></td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>Is the debris filter clogged with foreign material such as pins, coins, etc.?</td>
</tr>
<tr>
<td></td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>Clean up the filter.</td>
</tr>
<tr>
<td></td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td>Is the drain hose frozen with water, kinked, or crushed?</td>
</tr>
<tr>
<td></td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td>Visit to check</td>
</tr>
<tr>
<td>SYMPTOM</td>
<td>GUIDE FOR SERVICE CALL</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>* Suds overflow from the appliance.</td>
<td>· Is low-sudsing detergent for the drum washing machine used?</td>
</tr>
<tr>
<td>(In this condition, wash and spin do not operate normally)</td>
<td>· Yes</td>
</tr>
<tr>
<td></td>
<td>· Is the proper amount of detergent used as recommended?</td>
</tr>
<tr>
<td></td>
<td>· Yes</td>
</tr>
<tr>
<td></td>
<td>· Recommend to reduce the amount of detergent.</td>
</tr>
<tr>
<td></td>
<td>· This appliance has the automatic suds sensing function which operates under much suds condition for good rinse and preventing overflow.</td>
</tr>
<tr>
<td></td>
<td>· When much suds are sensed, the suds removing function such as drain, water input, and pause will operate without rotating the drum.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>GUIDE FOR SERVICE CALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>* No effect of softener</td>
<td>· Is softener put in the correct compartment of drawer?</td>
</tr>
<tr>
<td></td>
<td>· Yes</td>
</tr>
<tr>
<td></td>
<td>· Is the drawer closed during wash?</td>
</tr>
<tr>
<td></td>
<td>· Yes</td>
</tr>
<tr>
<td></td>
<td>· Is the softener cap clogged?</td>
</tr>
<tr>
<td></td>
<td>· Yes</td>
</tr>
<tr>
<td></td>
<td>· Explain how to use softener</td>
</tr>
<tr>
<td></td>
<td>Clean the compartment for softener</td>
</tr>
</tbody>
</table>
8-2.FAULT DIAGNOSIS AND TROUBLESHOOTING

**CAUTION**

1. Be careful of electric shock or disconnecting the parts while troubleshooting.
2. First of all, check the connection of each part terminal with wiring diagram.
3. If you replace the PWB assembly (Main), put in the connectors correctly.

### NO POWER

1. **When measuring the voltage of the outlet, is the voltage AC 220-240V?**
   - **NO** Check the fuse
   - **YES**

2. **When measuring the voltage of Yellow(BN), Black(BL) connector of the PWB assy, is the voltage AC 220-240V?**
   - **NO** Check the harness Assembly.
   - **YES** Replace PWB assembly.

### ALL BUTTONS ARE INOPERABLE EXCEPT POWER BUTTON

1. **Is Child Lock set?**
   - **YES** Cancel the Child-Lock
   - **NO**

2. **First, unplug the power cord and plug again. Check the buttons are working.**
   - **YES** Normal
   - **NO** Visit to check
**NO WATER SUPPLY**

- **Is the water supply shut-off?**
  - NO
  - YES

- **Is the tap opened?**
  - NO
  - YES
  - Open the tap.

- **Water level frequency below 240?**
  - NO
  - YES
  - Check the chamber (Air) and the tube clogged with impurity.

- **Is the inlet valve filter clogged with impurity?**
  - NO
  - YES
  - Clean the filter.

- **Is resistance of the inlet valve connector between the 2 to 8 kΩ?**
  - NO
  - YES
  - Replace the inlet valve.

- **Check the voltage between each terminals of inlet Valve is 220 - 240V~. (Refer to 7-2 TEST MODE)**
  - NO
  - YES
  - Replace PWB assembly

**DETERGENT DOES NOT FLOW IN**

- **Is water supplied?**
  - NO
  - YES

- **Are receptacles correctly connected to the terminals of inlet valve?**
  - NO
  - YES
  - Check the wiring on the dispenser.

- **Is detergent put in the correct compartment of the drawer?**
  - NO
  - YES

- **Is the detergent caked or hardened?**
  - NO
  - YES
  - Clean the drawer.
**SOFTENER DOES NOT FLOW IN**

Is water supplied? **NO** Refer to **NO WATER SUPPLY**

Are receptacles correctly connected to the terminals of inlet valve? **NO** Check the wiring on the dispenser.

Is softener put in the correct compartment of drawer? **NO** Put it in the correct compartment.

Is the softner cap clogged? **YES** Clean the cap and drawer.

**ABNORMAL SOUND**

Is the motor bolt loosened? **YES** Fix the bolt tightly.

**NO**

Is there friction noise from the motor? **YES** Replace the STATOR assembly or ROTOR assembly.
HEATING WITHOUT WATER

Water level frequency 252 or more? Water level frequency between 230-245-?

NO Replace the sensor (pressure)

YES

Checking voltage between two [Yellow(RD), Black(YL)] pins as press the power button is the voltage 220 - 240V~ in without water condition

YES Replace the PWB assembly

NO

DRAIN MALFUNCTIONING

Is the drain hose twisted or frozen?

YES Repair drain hose

NO

Is the impeller of the drain pump clogged?

YES Remove foreign material.

NO

Is the connector disconnected, disassembled?

YES Reconnect or repair the connector

NO

Is the coil of drain pump cut-off? (resistance of coil is 90~160Ω)

YES Replace the pump assembly

NO Replace the PWB assembly (Main)

When checking voltage between connectors (①, ②) on spinning, is the voltage 220 - 240V~ as the figure?
WASH HEATER TROUBLE

When checking the voltage between connector (①, ②) the PWB assembly (Main) during cotton 95°C washing, is the voltage 220 - 240V ~?

- **YES**
  - After power off, is the resistance of wire (RED-YELLOW) connectors between 10Ω to 30Ω?
    - **YES**
      - Normal
    - **NO**
      - Replace the heater assembly

- **NO**
  - After power off and the heater terminal is disconnected, is the resistance 10 to 30Ω?
    - **NO**
      - Replace the heater assembly

HEATING CONTINUOUSLY ABOVE THE SETTING WATER TEMPERATURE

When disconnect the connector (1) on the PWB assembly (Main) is the resistance of the Red connectors (③(BL/W/WH), ④(S/L)) between 2.5kΩ to 180kΩ (105°C ~ 0°C)?

- **NO**
  - Replace the thermistor (6322FR2046C)

- **YES**
  - When checking thermistor on the tub, is the thermistor loosened above 2mm from the rubber?
    - **YES**
      - Push the thermistor tightly to the rubber.
    - **NO**
      - Replace the PWB assembly (Main)
SPIN TROUBLE

While spinning, is the frequency of the water level 248 or more?

NO

Pressing QC test mode buttons at the same time after power off, press the START/PAUSE button 2 times, is the drum low speed spin?

YES

Normal

NO

Is it disconnected, or disassembled?

[White : 3pin ( ), Red:3pin ( ), Red:3pin ( ), National:4pin ( )]

YES

Correct the connector.

NO

Is it disconnected, or disassembled?

White : 3pin( ), White:4pin( )]

YES

Correct the connector.

NO

Check the motor connector, Is the resistance of the terminal same as the figure?

MOTOR TERMINAL (1)

| 1 | 2 | 3 |

Resistance of terminal:

1 ~ 2 / 2 ~ 3 / 3 ~ 4 : About 5Ω ~ 10Ω

NO

Replace the STATOR assembly.

YES

Replace the PWB assembly.
9. DISASSEMBLY INSTRUCTIONS

* Be sure to unplug the machine out of the outlet before disassembling and repairing the parts.

**CONTROL PANEL**

① Unscrew 2 screws on the back of the top plate.
② Pull the top plate backward and upward as shown.

① Disconnect the PWB assembly connector from Main lead wire assembly.
② Pull out the drawer and unscrew 2 screws.
③ Push upper hooks down on the top and pull the control panel.

① Disconnect the PWB assembly (Main & Display) from the control panel by unscrewing 7 screws.
**DRAWER**

1. Disassemble the top plate assembly.
2. Pull out the drawer to arrow direction.
3. Unscrew 2 screws.

**DISPENSER ASSEMBLY**

1. The hose clamps and the hose are disassembled.
2. The ventilation bellows and the water inlet bellows are disassembled on the tub.
① Disconnect the wiring receptacle.
② Unscrew 2 screws from the back.
※ When reconnecting the connector

<table>
<thead>
<tr>
<th>Valve Type</th>
<th>Color 1</th>
<th>Color 2</th>
<th>Color 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>VALVE #1 (MAIN)</td>
<td>White</td>
<td>Black</td>
<td>Black</td>
</tr>
<tr>
<td>VALVE #2 (PRE)</td>
<td>Gray</td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>VALVE #3 (HOT)</td>
<td>Blue</td>
<td>Red</td>
<td>Black</td>
</tr>
</tbody>
</table>

① Open the lower cover cap by using coin and pull out the lower cover to the arrow direction after a screw is unscrewed.

① Open the door completely.
② Remove the two screws from the hinge.
※ When removing the door assembly, it is necessary to hold the bracket that is inner of the cabinet cover.
① Take apart the cabinet gasket clamp.
② Unscrew 2 screws from the cabinet cover.
③ Open the lower cover cap and unscrew 1 screw inside.
④ Take apart the lower cover.

① Disassemble the control panel. (page 24)
② Unscrew all the screws on the upper and lower sides of the cabinet cover.

① Take apart the tub gasket clamp.
② Make sure that the drain hole of the gasket is put beneath when reassembling the gasket.
※ Refer to the arrow mark on the tub cover.
**ROTOR ASSEMBLY, STATOR ASSEMBLY, FRICTION DAMPER ASSEMBLY**

1. Remove the BACK COVER.
2. Unscrew the bolt to pull out the Rotor assembly.

1. Disconnect the wiring connector.
2. Unscrew 6 bolts from the STATOR.
3. Remove the STATOR.

* Note: Hook of connector (1) is on the backside

1. Pull out the hinge, pressing its snap.
2. Do not use the pulled-out hinge again. It may be taken off during operation.

---

**Clean the drain pump filter**

- Open the lower cover cap (1) by using a coin. Turn the drain plug (2) to pull out the hose.
- Unplug the drain plug (2), then the water flows out. At this time use a vessel to prevent water from flowing on the floor. If the water does not flow any more, turn the pump filter (3) open to the left.
- Take out any foreign material from the pump filter (3). After cleaning, turn the pump filter (3) clockwise and insert the drain plug (2) to the original place. Close the lower cover cap.
Pump Outlet Hose

Remove pump outlet hose.

Tub Pump Bellows

Remove tub pump bellows.

Remove cap (Remaining Hose.)

Disconnect the wiring.

Unscrew 2 screws.

Remove the pump.

Heater

Loosen the M6 heater nut to pull out the heater.

CAUTION

When mounting the heater, be sure to insert the heater into the heater clip on the bottom of the tub.

Thermistor

Pull it out by holding the thermistor bracket.

* If it is pulled by the wire, it may be broken.

When mounting the thermistor again, make sure that it is got back tight to the bushing.
SWITCH ASSEMBLY, DOOR LOCK

1. Take apart the cabinet cover clamp and release the gasket.
2. Unscrew 2 screws holding the door lock.
3. Disconnect the door lock from the wiring connector.

WHEN FOREIGN MATERIAL IS STUCK BETWEEN DRUM AND TUB

1. Remove the heater.
2. Remove the foreign material (wire, coin and others) by inserting a long bar through the hole.
10. EXPLODED VIEW

10-1. THE EXPLODED VIEW OF CABINET ASSEMBLY

Location No A200, Apply Model is WD-****TD(K)
10-2 THE EXPLODED VIEW OF CONTROL PANEL & DISPENSER ASSEMBLY

❋ Location No F216, Apply Model is WD-**35(36)*TD(K)
10-3 THE EXPLODED VIEW OF DRUM & TUB ASSEMBLY