

# Service Manual

## Drum Type Washing Machine

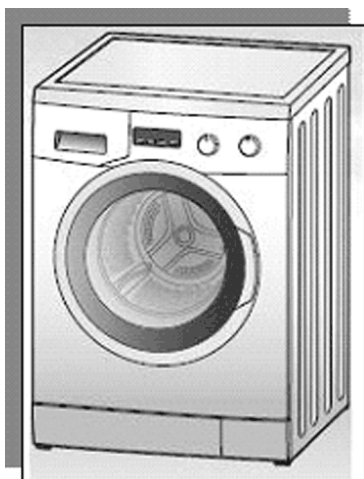
Model No. **NA-107VC5WAE**

Model No. **NA-107VC5WAS**

Model No. **NA-107VC5WPG**

Product Colour : White

Destination : United Arab Emirates (UAE),  
Oman, Kuwait, Lebanon, Qatar, Jordan,  
Iran, Libya



### **⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

### **IMPORTANT SAFETY NOTICE**

There are special components used in this equipment which are important for safety. These parts are marked by **⚠** in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.



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# 1 Safety Precautions

In order to prevent any accident during repair work and ensure security of the product after repair work, some things surely followed are explained below.

■ The level of the arisen damages or dangers, when indicated contents are ignored, are classified by following indications and explained.

	<b>Warning</b> The content in the column of this indication is "Be assumed that possibly die or get seriously injured".
	<b>Attention</b> The content in the column of this indication is "Be assumed that possibly get damages or possibly only damaged object occurred".

■ Types of the contents being followed are classified by following figured symbols and explained.  
(The following is an example of expression in pictures.)

	This figured symbol means caution " <b>Attention</b> ".
	This figured symbol means must not do " <b>Prohibition</b> ".
	This figured symbol means surely execute " <b>Instructions</b> ".

## **Warning**

### Connection of cables should be done according to regular work.



- Connection of cables should be tightened reliably with strength using solderless terminal. (specified parts always using regular bonding plier)
- Install a fire protection cover (fireproof) covering connection area completely, and close opening area by tape. (Please reuse the fire protection cover which came with the product.)
- When drawing cables around, fixing those cables with cable suppression part. Do not touch rotating part, high temperature part and surface of metal.
- Be sure to replace with cable unit when any cable was snapped. When a part of the cable unit was cut you must not do the connection repair. It may be the cause of smoke, ignition or receiving an electric shock.

### Be careful about receiving an electric shock.



When doing electric connection service such as voltage measurement, please be careful enough about receiving an electric shock at electric charging parts and cable terminal parts.


### Pull out electric plug when doing repair work.



Disassembling, assembling and replacing parts should be done after pulling out electric plug. Receiving an electric shock or getting an injury may occur.

### Be sure to use specified parts.



Always use specified parts for the parts with mark  in the electric circuit diagrams and parts list. It may be the cause of smoke, ignition or damage.

### Do not touch any rotating object with hand unless it stops completely.



Slow rotation may also roll in your hands and cause injury.

### Rebuilding is prohibited.



Do not rebuild machine parts and components when repairing service. It may be the cause of damage or ignition.

### Straightly pull out or insert in huasuton terminal.



Do not twist it. It may be the cause of damage or ignition.

## **Attention**

### Please wear gloves when disassembling, replacing and assembling.



Always wear gloves to prevent an injury by the metal end face or an electric shock at the time of the electricity service.

### Please be careful to the edges of the metal end face.








Wear the working clothes of long sleeves to prevent an injury by the metal end face or please work after covering the end face with tape or towel.

## 2 Specifications

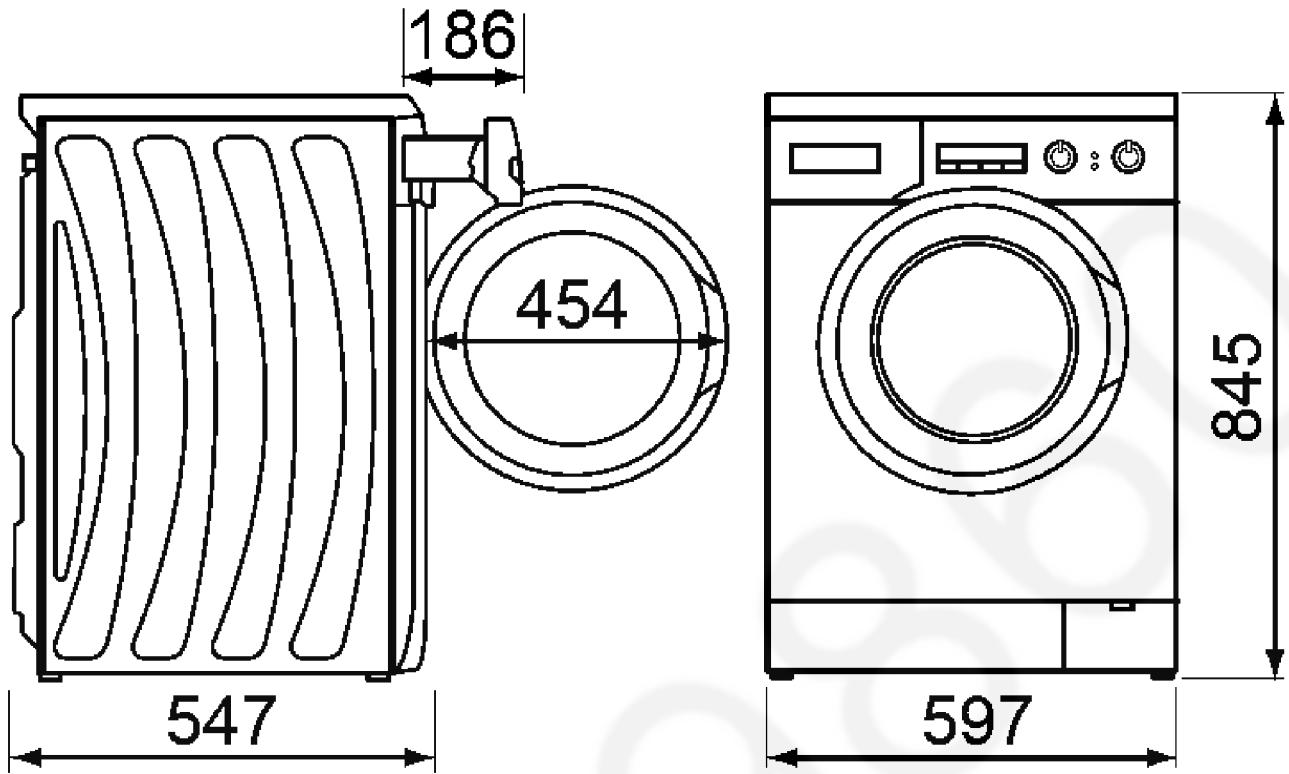
### 2.1. Product Specifications

Model		NA-107VC5
Product Type		Front Loader
Capacity		7 kg
Max Spin Speed		1000 rpm
Drum Volume		50 lt
Energy Label Rating		A++
Energy Consumption		195 kWh / annum
Water Consumption		10346 L/ annum
Noise Level	Wash	58 dBA
	Spin	77 dBA
Control Panel		LED display
Wash Programs		15 settings
Spin Speed Setting		5 setting
Dimensions	Height	84.5 cm
	Width	59.7 cm
	Depth	54.7 cm
Door Opening		Large door opening
Delay Time Setting		Yes
Colour		White
Water Protection		Overflow Protection
Other Features		Child Lock
Packaging		Shrink package

### 2.2. Name Plate

<b>Panasonic</b>		<b>Ser. No. 380001</b>	
Model No. NA-107VC5		BASIC TYPE NO.: P71050CA6	
220-240 V~50 Hz		Panasonic Corporation	
 1000 /min	Made in Turkey		
P 2200 W	Fabriqué en Turquie		
			IPX4
			

### 2.3. Dimension



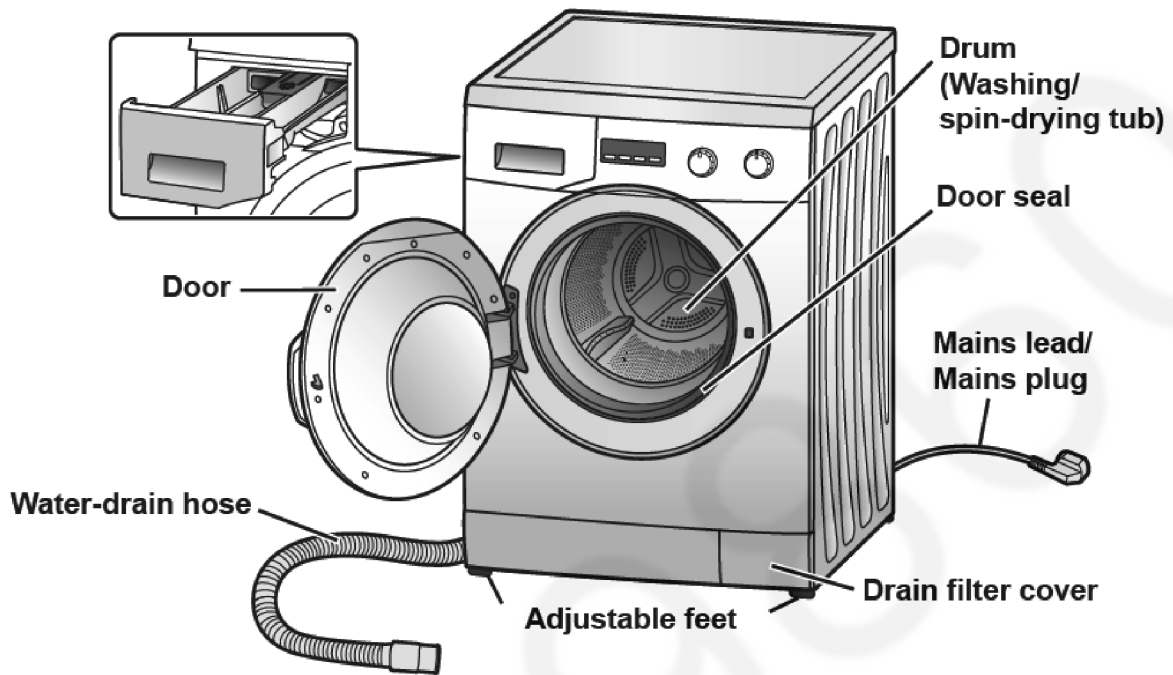
Dimension in millimetres  
NA-107VC5



### 3 Location of Controls and Components

#### Your washing machine

Detergent drawer



#### Accessories

Make sure that all the accessories are supplied with the appliance.

##### Elbow

For fixing the water-drain hose



##### Liquid detergent level plate



##### Cover cap (x4)



##### Water-supply hose

Either one of these hoses is supplied with the appliance.

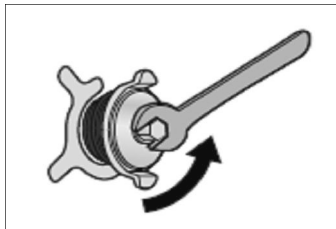


## 4 Installation Instructions

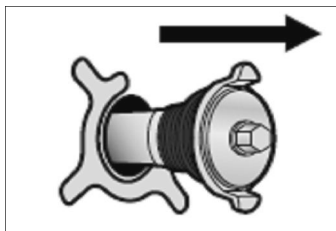
### 4.1. Moving and Installing

#### 4.1.1. Removal of Transportation Screw

1. Transportation screws, which are located at the back side of the machine, must be removed before running the machine.
2. Loosen the screws by turning them anticlockwise with a suitable spanner.



3. Pull out the screws and rubber washers.

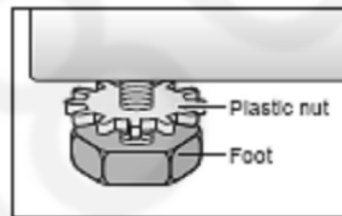


4. The holes where the transport screws have been removed should be covered with the plastic transport caps found in the accessories bag.
5. The transportation screws that have been removed from the machine must be re-used in any future transporting of the machine.



#### 4.1.2. Foot Adjustment

1. Do not install machine on rugs or similar surfaces.
2. For machine to work silently and without any vibration, it should be installed on a flat, non-slippery firm surface. Any suspended floor must be suitably strengthened.
3. You can adjust the level of machine using its feet.
4. First, loosen the plastic adjustment nut away from the cabinet base.
5. Change the level by adjusting the feet upwards or downwards.
6. After level has been reached, tighten the plastic adjustment nut again by rotating it upwards against the base of the cabinet.
7. Never put cartons, wooden blocks or similar materials under the machine to balance irregularities of the floor.



#### 4.1.3. Electrical Connection

1. Washing machine requires a 50Hz supply of 220-240Volts.
2. A special earthed plug has been attached to the supply cord of washing machine. This plug must be fitted to an earthed socket. The fuse value fitted to this plug should be 13 amps. If you have any doubts about electrical supply, consult a qualified electrician.

**THIS APPLIANCE MUST BE EARTHED.**  
Insert the machine's plug to a grounded socket which you can easily reach.

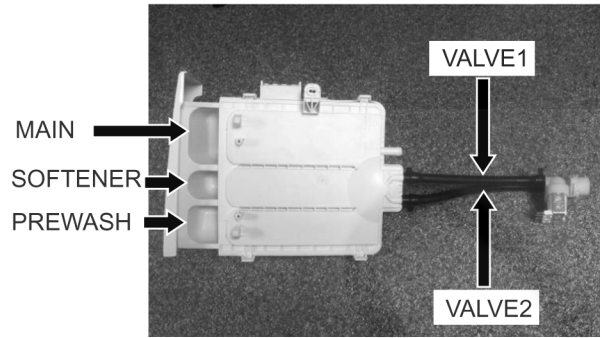
#### 4.1.4. Water Supply Connection

1. Washing machine is supplied with a single (cold) water inlet.
2. To prevent leakage from the connection joints, a rubber washer is included in the hose packing. Fit this washer at the end of water inlet hose on the tap side.
3. Connect the hose to the water inlet valve. Tighten the plastic connector by hand. Please call a qualified plumber if you are unsure about this.
4. Water pressure of 0,1-1 MPa from tap will enable machine to work more efficiently. (0,1 MPa pressure means water flow of more than 8 litres in 1 minute from a fully opened tap)
5. After connection is complete, check for leakage by turning on tap completely.
6. Make sure that water inlet hoses can not become folded, damaged, stretched or crushed when the washing machine is in its final position.
7. Mount the water inlet hose to a  $\frac{3}{4}$ " threaded water tap.

#### 4.1.5. Drain Connection

1. Make sure that water inlet hoses are not folded, twisted, crushed or stretched.
2. The drain hose should be mounted at a minimum height of 60 cm, and a maximum height of 100 cm from the floor.
3. The end of the drain hose can be connected directly to a drainage stand-pipe or alternatively to a specific connection point designed for that purpose on the waste outlet of a sink unit.
4. Do not extend the drain hose or guarantee will be invalidated.

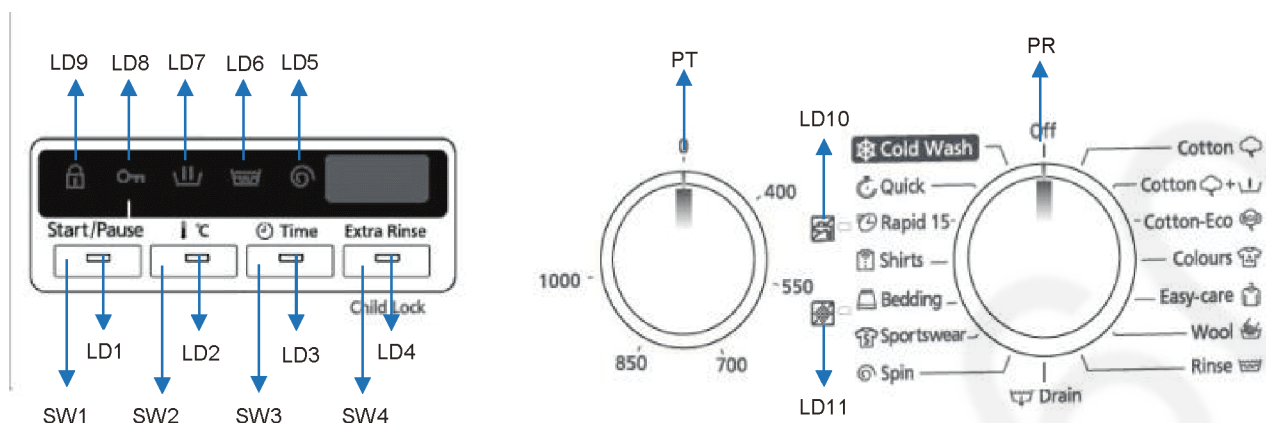
#### 4.2. Detergent Box Group



PREWASH = WATER ENTRY VALVE 1  
MAIN = WATER ENTRY VALVE 2  
SOFTENER = WATER ENTRY VALVE 1 + VALVE 2


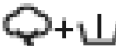










## 5 Operating Instructions

### 5.1. LED display, Function Buttons & Knobs



PR	Program selector 16 programs with ON/OFF.
SW1	Switch 1, Start / Pause
SW2	Switch 2, Temperature Selection
SW3	Switch 3, Delay Time Function
SW4	Switch 4, Extra Rinse
PT	PT speed potentiometer
LD1	Switch 1- Start/ Pause LED
LD2	Temperature Function Button LED
LD3	Delay Time Function Button LED
LD4	Extra Rinse Function Button LED
LD5	Spin Phase LED
LD6	Rinse Phase LED
LD7	Wash Phase LED
LD8	Child Lock Activation LED
LD9	Door Lock LED
LD10	Lack Of Water Indication LED
LD11	Pump Failure Indication LED

## 5.2. Program Details

Programme	Temperature	Load (kg)	Power consumption (kWh) <sup>2)</sup>	Water consumption (L) <sup>2)</sup>	Time (mins) <sup>2)</sup>
			107VC5	107VC5	
 Cotton	40 °C	7	0.92	62	125
 Cotton (Prewash)	40 °C	7	0.98	74	143
 Cotton-Eco	60 °C <sup>1)</sup>	7	0.57	51	185
 Colours	40 °C	3.5	1.00	58	105
 Easy-care	40 °C	3.5	0.61	47	85
 Wool	30 °C	2	0.15	50	40
 Sportswear	40 °C	3	0.62	42	105
 Bedding	30 °C	3	0.30	50	65
 Shirts	40 °C	2	0.60	44	85
 Rapid 15	30 °C	2	0.10	32	15
 Quick	40 °C	3.5	0.48	38	68
 Cold Wash	Cold	3.5	0.22	45	105

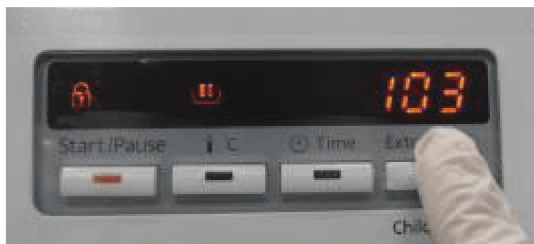
1) Results calculated based on the maximum spin speed comply with EN 60456.

2) The power, water consumption, and time indicated in the table may vary depending on variations in pressures, water hardness and temperatures, room temperatures, types and amounts of laundry, voltage fluctuations and functions to be used.

## 5.3. Child Lock

### Activation

1. Press SW4 for 4-5 seconds.

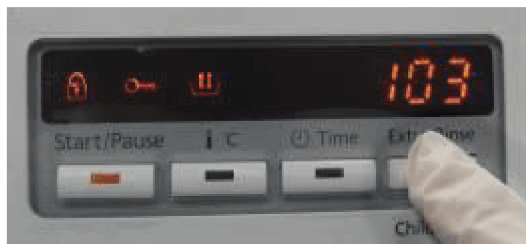


2. The Child Lock Symbol on appears on the display as Child Lock is active.

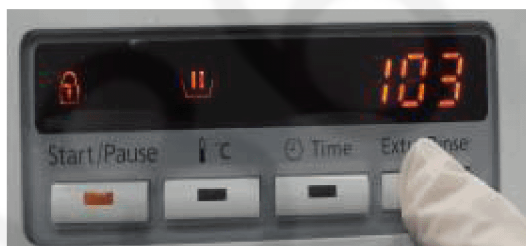


### Deactivation

1. Press SW4 for 4-5 seconds.



2. The Child Lock Symbol will disappear on display upon deactivation.



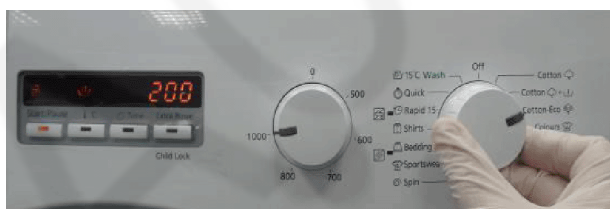
## 6 Test Mode

### 6.1. Autotest

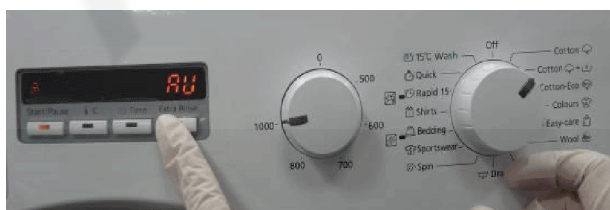
1. Set PR to program 3 (Cotton-Eco)



2. While pressing SW4 (Extra Rinse), change position of the PR from third program to second (Cotton-Prewash), and release SW4.



3. Autotest starts.



AUTOTEST													
	5	10	15	20	25	30	35	40	45	50	55	60	65
Time in seconds (to be adjusted)													
Entering autotest													
Changing power to 220 50Hz													
Main Voltage 50 Hz													
Door Lock Powered (Depends on door lock)													
Motor Ramp to max spin (max. is 15 sec.)													
Time until motor is stopped (Depends on the motor stop time)													
Motor Preferred Run (Direction to Right)													
Motor Inverse Run (Direction to Left)													
EV1 (flowrate dependent of washer)													
EV2 (flowrate dependent of washer)													
Test stopped until E.Rinse button is pressed (symbol blinking)													
EV1 + EV2 valves up to first level frequency (Depends on the water level)													
NTC check													
Heather resistance													
Pump													
Twin Jet													
EPS measurement													
End Visualization													

Ntc detection Software will detect NTC's resistance value and will check if the temperature is between  $5^{\circ}\text{C} < T_{\text{detected}} < 40^{\circ}\text{C}$ . If it is inside the range, heating step will be done.

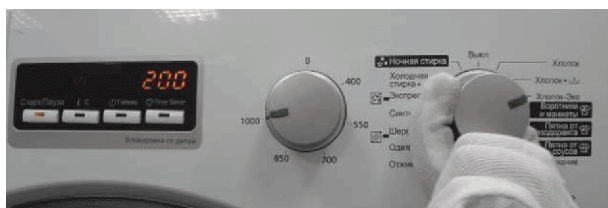
If temperature value is outside the range, then it means NTC is detecting the temperature in a wrong way and heating step will be skipped.

EPS measurement checks the EPS and if it OK, it continues the autotest; if it is NOK then cancel the Autotest and go to the selection mode. Also if any frequency can not be detected, then it means there is problem with connection or EPS, so it gives E1.

# 7 Service Mode

## 7.1. Service Autotest

1. Set PR to program 3 (Cotton-Eco) and press SW2 (T°C)



2. While pressing the SW2, change PR position from third to second, and release the SW2 button.



3. Bring PR to desired test step (1st, 2nd or 3rd program position) as soon as "SAU" is displayed on LED.

LD1 (Start / Pause Button LED) → ON

LD9 (Door Lock LED) → ON (in 30 sec)

Display → "SAU"

	Step1	Step2	Step3
	PR Position: Program 1 (Cotton)	PR Position: Program 2 (Cotton Prewash)	PR Position: Program 3 (Colours)
	Result	Result	Result
	HEATER ON	PUMP ON	TEST PROGRAM ON (Rapid 12')
Comments :	When entering in service test, door will be locked.		Test is over Door will be unlocked, machine will go to END state.

The test steps are as below ;

### Step 1 :

- Selector Program 1 (Cotton) will be "HEATER ON"
- Before heating it should take water till first level frequency then start heating.
- Heater will be on max. 8 minutes after this 8 minutes if the temp. doesn't change more than 2 °C then it will give NTC failure. (E05).
- Or if the NTC connection is broken then it should give again E05 NTC failure.
- At the end of heating, "SAU" visualization should make slow blink to indicate that the step is over.
- Note : If user changes the selector position, machine will do what is defined for the new selected position.

### Step 2 :

- Selector Program 2 (Cotton Prewash) will be "PUMP ON"
- Temperature will be measured, if it is higher than 50 °C, it should take 60 sec. cooling water, and then make "Drain + 5 sec."
- At the end of pump activation, "SAU" visualization should make slow blink to indicate that the step is over.

### Step 3 :

- Selector position 3 (Colours) will be a 12 mins test program where all functions of the appliance will be checked.
- Machine will make exactly the same algorithm of Super Rapid 12'.  
So, time for selector position 3 is 12 minutes.
- At the end of test program "End" is visualized on LED and door is unlocked.



## 15 Minutes Test Program

- Total water consumption : 30 L (14L Main Wash, 16L Rinse)
- Total duration : 15 min. (8 min Main Wash, 7 min Rinse)
- Total 53 r/min motor movement : 6.5 min. (4.5 min Main Wash, 2 min Rinse)
- Heating : 1,5 min during Main Wash
- Spinning :  
400 r/min (After Main Wash)  
800 r/min (After Rinse)
- Number of Rinses : 1

## 7.2. Failure Codes

Error Indication	Error Number	Indication For User	Indication For Service
		Yes/No	Yes/No
Door is not locked	E01	Yes	Yes
Door is unlocked during programme	E01	Yes	Yes
Lack of water	E02	Yes	Yes
Pump failure	E03	Yes	Yes
Overflow	E04	Yes	Yes
NTC or Heater Failure	E05	No	Yes
Motor Failure - 1 (Tachometer open-short circuit or motor connector is disconnected)	E06	No	Yes
Voltage failure	E09	Yes	Yes
Electronic Pressure Sensor	E10	No	Yes

## 8 Troubleshooting Guide

All repairs which must be done on the machine should be done by authorized agents only. When a repair is required for machine or you are unable to eliminate the failure with the help of the information given below:

- Unplug the machine.
- Close the water tap.

FAILURE	PROBABLE CAUSE	METHODS OF ELIMINATION
<b>Machine does not operate.</b>	It is unplugged.	Insert the plug into the socket.
	Fuse is defective.	Change fuse.
	Start / Pause button has not been pressed.	Press the start / pause button.
	The program knob is in 0 (off) status.	Bring the program knob on the desired status.
	The door is not shut properly.	Shut the door properly. You should hear the click.
<b>Machine does not receive water.</b>	Child lock is active.	See section 5.3.
	Water tap is closed.	Open water tap.
	The water inlet hose may be bent.	Check the water inlet hose.
	The water inlet hose is obstructed.	Clean the filters of water inlet hose.
	The water inlet filter is obstructed.	Clean the valve inlet filters.
<b>Machine is not draining water.</b>	The door is not shut properly.	Shut the door properly. You should hear the click.
	The drain hose is obstructed or bent.	Check the drain hose.
	The pump filter is obstructed.	Clean the pump filter.
<b>Machine is vibrating.</b>	The clothes are not placed inside the machine in a well-balanced manner.	Spread the clothes inside the machine in an orderly and well-balanced manner.
	The feet of machine are not adjusted.	Adjust the feet.
	Transportation screws are not removed.	Remove transportation screws.
	There is a small amount of clothes in the device.	It does not prevent operation of the machine.
<b>Excessive foam in the detergent drawer.</b>	Excessive amount of clothes are filled in the machine or the clothes are not placed in a well-balanced manner.	Do not exceed the recommended quantity of clothes and spared clothes in the machine in a well-balanced manner.
	Too much detergent has been used.	Press the start/pause button. In order to stop the foam, dilute one table-spoon of softener in half liter of water and pour it in the detergent drawer. Press the start/pause button after 5-10 minutes. Arrange the amount of the detergent properly in the next washing process.
<b>The washing result is bad.</b>	Wrong detergent has been used.	Use only the detergents produced for full automatic machines.
	Laundry too dirty for the program you have selected.	Select a suitable program.
<b>The washing result is not good.</b>	The amount of detergent used is not sufficient.	Use more detergent according to the detergent.
	Clothes exceeding the maximum capacity has been filled in machine.	Put the clothes in machine in a manner not to exceed its maximum capacity.
	Water may be hard.	Use the amount of detergent according to the declaration of the detergent producer.
<b>The water is seen in the drum during washing.</b>	Distribution of the clothes in machine is not well-balanced.	Spread the clothes inside the machine in an orderly and well-balanced manner.
	No failure. The water is at the lower part of the drum.	
<b>There are residues of detergent on the clothes.</b>	The pieces of some detergents which do not dissolve in water may stick to clothes as white stains.	By calibrating machine for "Rinsing" program, make an additional rinsing or eliminate the stains After drying with the help of a brush.
<b>There are grey stains on the clothes.</b>	These stains may be caused by oil, cream or ointment.	In the next washing operation, use the maximum detergent amount declared by the detergent producer.
<b>The spinning process is not done or starts with delay.</b>	No failure. The unbalanced load control works in that way.	The unbalanced load control system will try to distribute clothes in a homogenous manner. After clothes are distributed, passage to spinning process will be realized. In the next washing process, place clothes into the machine in a well-balanced manner.

## 9 Critical Torque Values

	ASSEMBLY LOCATION	BOLT/NUT	TORQUE MIN. (Nm)	TORQUE NOM. (Nm)	TORQUE MAX. (Nm)	AIR PRESSURE WRENCH (rpm)
*	Transport Screw Assembly	Transport Screws	6.50	6.50	7.00	1000
*	Motor Assembly	Motor Screws	6.00	6.50	7.50	800
*	Front Concrete Weight - Front Tub Assembly	Front Counterweight Screws	14.50	14.50	14.75	710
*	Upper Counter Weight Assembly	Upper Counter Weight Screws	25.00	27.50	30.00	440
*	Pulley - Drive Shaft - Washing Group Assembly	Pulley – Drive Shaft Assembly Bolt	39.50	40.00	40.50	440
*	Heater Assembly	Heater Assembly Nut	3.85	4.00	4.00	970

The bolts/nuts above are important for product safety purposes. Please tighten screw, bolts and nuts according to the torque values given in table above.

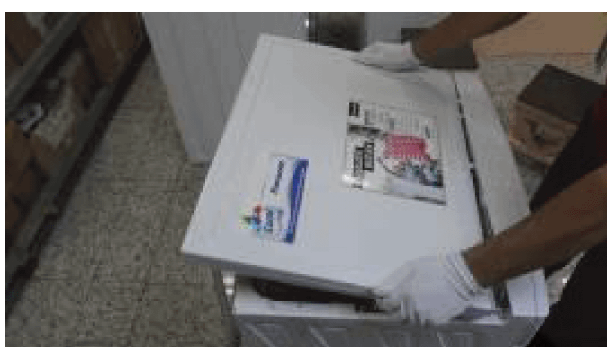
## 10 Disassembly and Assembly Instructions

### 10.1. Top Plate

1. Remove two screws that fix the top-plate at the back.

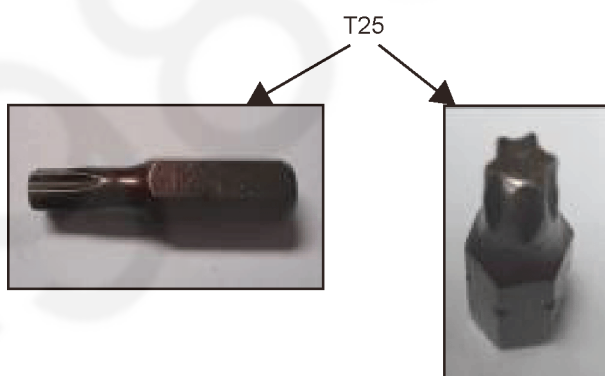


2. Push the top-plate back and pull it up.



### 10.2. Door

1. Remove two screws that fix the door. (by using the T25 tool)



2. Pull up the door.



3. Remove screws that fix the door group.



6. Remove six screws that fix the door hinge.



4. Put the door outside plastic with helping screwdriver.



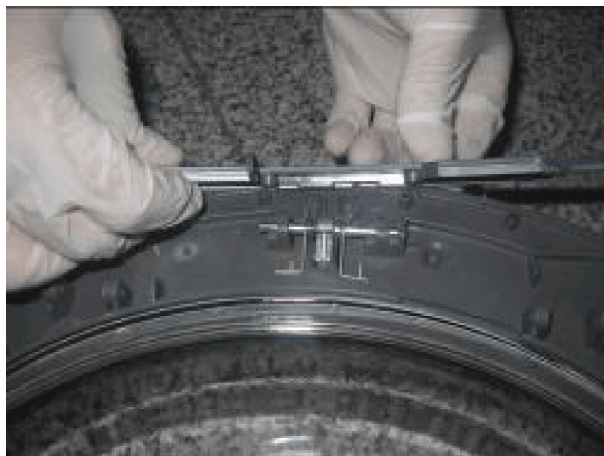
7. Remove the door handle.



5. Remove the door inside plastic.



8. Remove the door handle pin.





### 10.3. Spring Wire

1. First remove the spring wire fixing the tub bellows seal by using the small size screwdriver. Pull the tub bellows seal.



2. Remove the tub bellows seal-body fixing spring.



### 10.4. Detergent Drawer

1. Gently pull the detergent drawer.



2. While pressing siphon cover keep pulling drawer to remove it.



## 10.5. Control Panel

1. Remove the screw which fixes the control panel to the front panel.



2. Remove three screws fixing control panel.



3. Pull up the control panel.



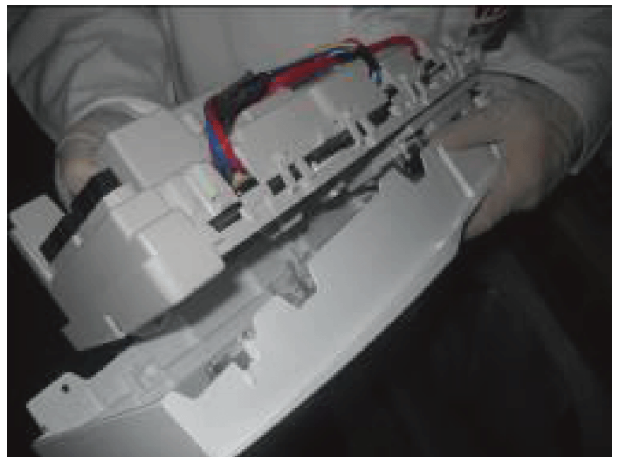
4. Remove connectors.



5. Remove electronic card cover as it is shown in the pictures by using small screw driver.



- 6.





## 10.6. Kick Plate

1. Remove the right part of the kick plate.



2. Remove two screws fixing the kick plate.



3. Pull the kick plate left and push it down.



## 10.7. Front Panel

1. Remove two screws fixing the front panel at the bottom by using T25 tool.



2. Remove two screws fixing the door lock.



- 3.





4. Remove the tub bellows seal.



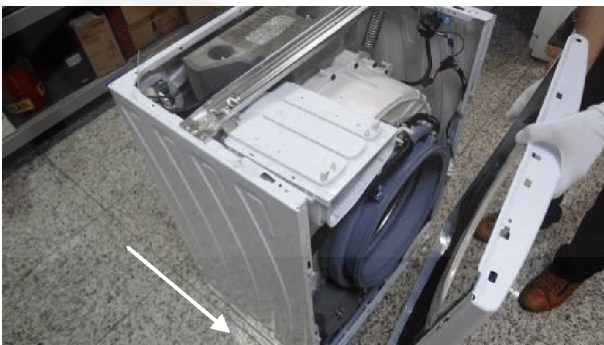
5. Remove two screws fixing front panel to the upper part.



6. Push front panel down.

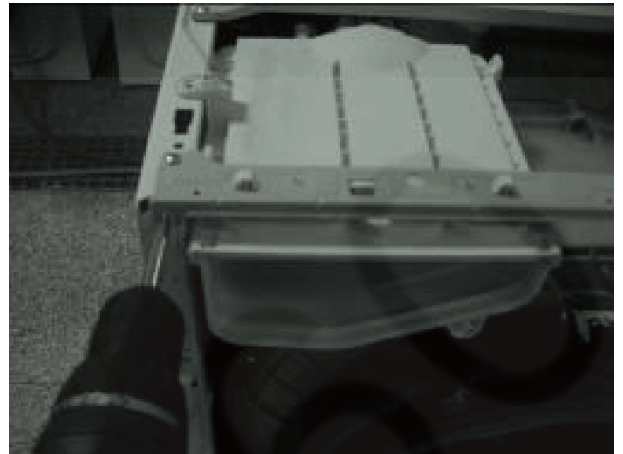


7. Pull and remove front panel.



## 10.8. Support Bracket

1. Remove two screws fixing the body group on the upper part.



2. Remove two clips fixing detergent drawer housing to upper support bracket.



## 10.9. Detergent Drawer Housing

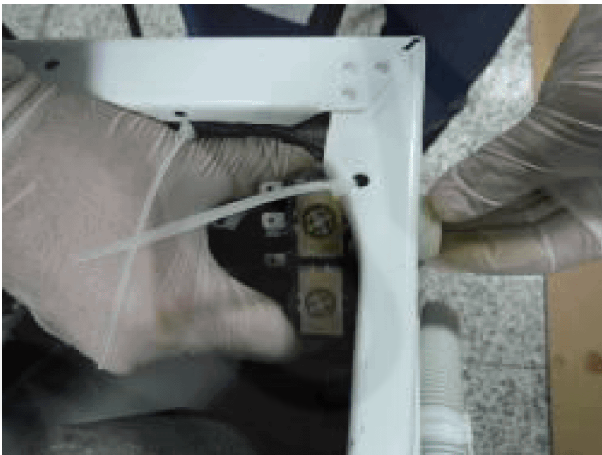
1. Remove the tub seal clamp by using the pliers, which is attached to the detergent drawer housing.



2. Unplug connectors from feed valve.



3. Slightly turn the feed valve counter-clockwise to remove.



4. Remove the detergent drawer housing assembly.



## 10.10. Power Cable Group and EMI Filter

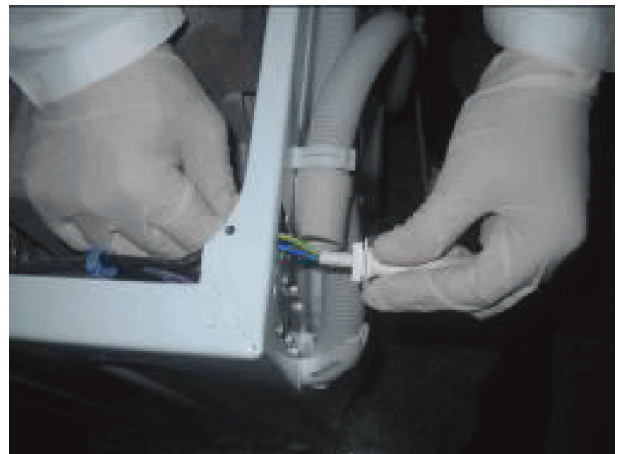
1. Remove the five connectors that is connected to the EMI filter.



2. Remove two screws fixing EMI filter.

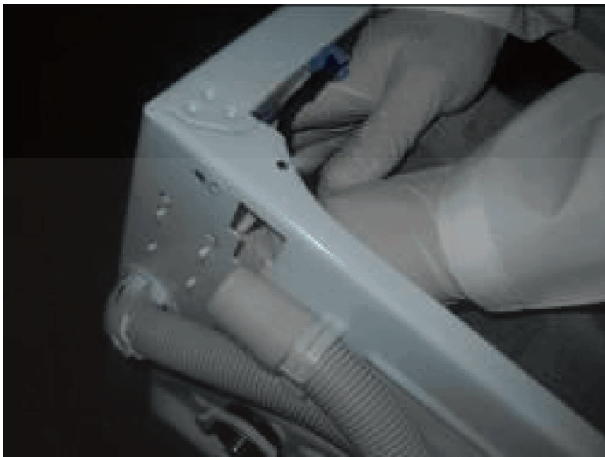


3. Pull the power cable group up.





4. Remove EMI filter.

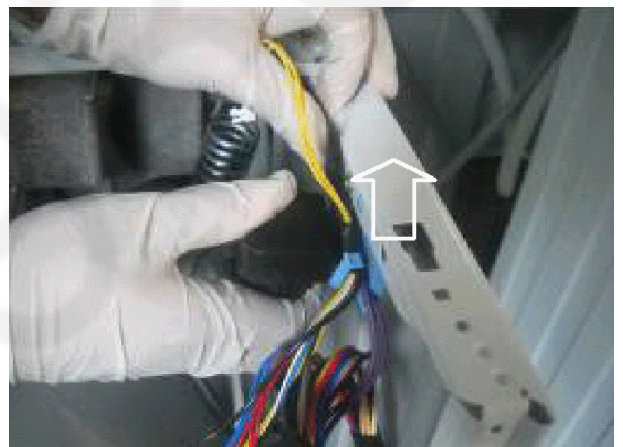


## 10.11. Electronic Pressure Switch (EPS)

1. Unplug EPS connector.



2. Pull up EPS.



3. Remove clamp from EPS hose.



## 10.12. Door Lock

1. Unplug door lock connector.



3. Unplug drain pump connector.



## 10.13. Drain Pump

1. Remove clamp holding drain hose.



2. Remove clamp fixing tub outlet hose.



4. Remove screws holding drain pump.





## 10.14. Front Counterweight

1. Remove three screws on the front counterweight.  
(Wrench size 13 mm)



2. Gently pull out counterweight.



## 10.15. Heater

1. Unplug heater connectors.



2. Remove nut (8 mm) fixing the heater.



3. Pull heater out gently holding both sides.



## 10.16. Tub Bellow Seal

1. Remove the tub gasket clip by using small screwdriver.



2. Hold the tub bellows seal and gasket-body fixing spring together, and pull them out.



## 10.17. Transport Screw

1. Remove four transport screws.



2. Hold the transport screw and pull it out.





## 10.18. Upper Counterweight

1. Remove two screws fixing the upper counterweight by using box wrench size 13 mm.



2. Hold and carry out upper-counterweight.



## 10.19. Washing Group

1. Unplug motor connectors.



2. Cut all the cable ties which fix cable group.

a)



b)



c)



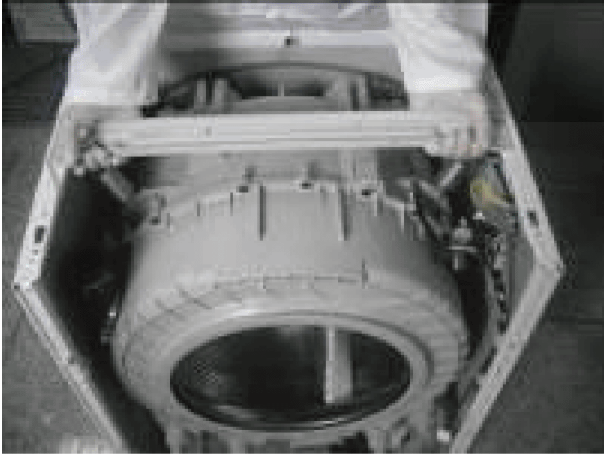
d)



3. Remove screws holding.



4. Remove the washing group by carrying it out through front side.



## 10.22. Driven Pulley

1. Remove pulley.



## 10.20. Shock Absorber Pin

1. Remove shock absorber pins squeezing the ratchet by a pliers.



2. Remove tub inlet bellow loosening the clamp.



## 10.21. Belt

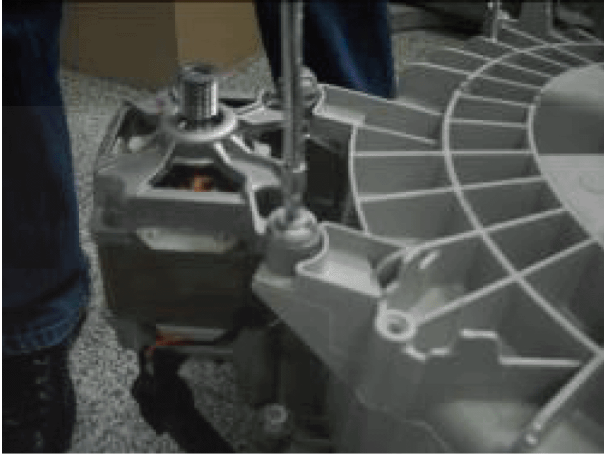
1. Remove belt by rotating both pulleys while pulling it up.





## 10.23. Motor

1. Remove two screws holding motor by using box wrench.



2. Pull up motor.



## 10.24. Tub

1. Remove tub inlet bellow hose loosening the clamp squeezing it by using a pliers.



2. Remove screw holding EPS reservoir.



3. Remove tub outlet bellowed hose loosening screwed-clamp.



4. Remove 19 screws around tub using box wrench size 8 mm.



5. Pull up front tub.



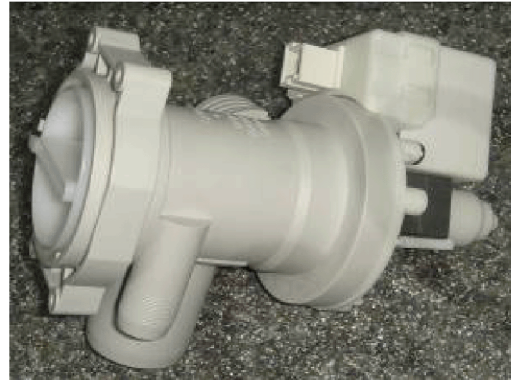
6. Remove drum.



# 11 Component Specifications

## 11.1. Drain Pump

Drain pump is both a mechanical and electrical component which is used to drain water inside the washing machine. It has an synchronous motor inside. For better performance maintenance, pump filter should be cleaned regularly.



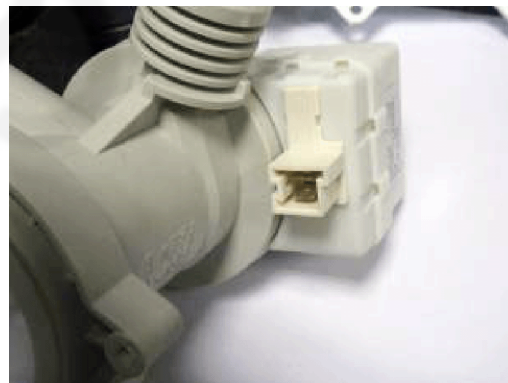
Drain pump

### Technical features

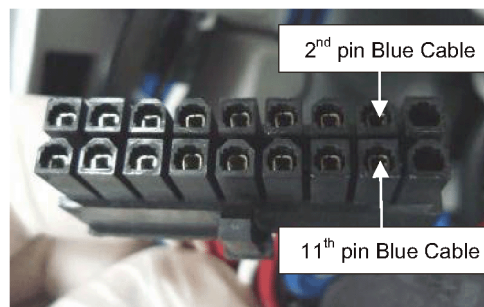
Nominal voltage	220-240 V	Resistor (coil)	125 $\Omega$ ( $\pm 5\%$ )
Nominal current	0.28 A ( $\pm 10\%$ )	Water flow	17 L/min (to 1 m height)
Nominal power	30 W ( $\pm 20\%$ )	Thermal protector	YES
Frequency	50 Hz		

### Testing component

Check the resistance value on the component with multimeter as shown below.  
Resistance value should be between 131 - 141  $\Omega$



You can determine the ohm value by measuring from the blue cable at 2nd and blue cable at 11th position in the large socket (refer wiring diagram in section 12) as shown below figure. Resistance value should be between 131 - 141  $\Omega$



Component test



## 11.2. Heater

Heating element (Resistance) is a component which is designed to regulate temperature of water inside the drum. It has three connections: Phase, neutral and ground connections.



Resistance

### Technical features

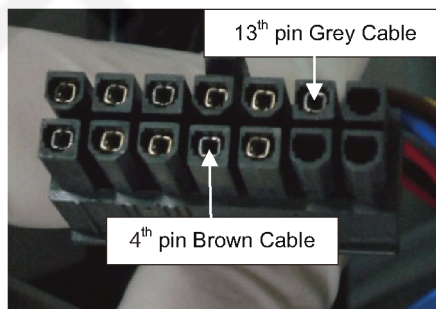
Heater type	Tubular heating element with NTC-sensor	Nominal power	2000 W ( $\pm 5\%$ )
Nominal voltage	230 V	Resistance	24,8 $\pm 5\%$ $\Omega$
		Thermal fuse	2 sided

### Testing component

Check the resistance value on the component with multimeter as shown below.  
Resistance value should be 24,8  $\pm 5\%$   $\Omega$



You can determine the ohm value by measuring from the grey cable at 13th and brown cable at 4th position in the small socket (refer wiring diagram in section 12) as shown in below figure. Resistance value should be 24,8  $\pm 5\%$   $\Omega$



Component test

### 11.3. NTC

Component which sends signals to PCB about the water temperature inside the tub. The Resistance (Ohm) value of the NTC decreases as the temperature increases.



NTC

#### Technical features

Tem (°C)	R min (kΩ)	R max (kΩ)
-10	54.9	62.6
-5	43.0	48.6
0	33.9	38.1
5	27.0	30.1
10	21.6	23.9
15	17.4	19.1
20	14.1	15.4
25	11.5	12.5
30	9.4	10.2
35	7.8	8.3
40	6.4	6.9
45	5.4	5.7

Tem (°C)	R min (kΩ)	R max (kΩ)
50	4.5	4.7
55	3.8	3.9
60	3.2	3.3
65	2.7	2.8
70	2.3	2.4
75	1.9	2
80	1.7	1.8
85	1.4	1.5
90	1.2	1.3
95	1.1	1.1
100	0.9	1

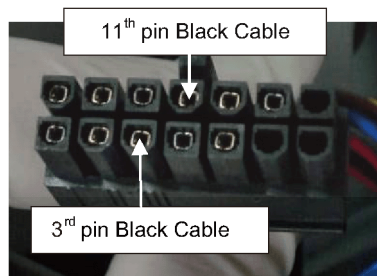
NTC Resistance vs. NTC Temperature

#### Testing component

Check the resistance value on the component with multimeter as shown below.



You can determine the ohm value by measuring from the black cable at 3<sup>rd</sup> and black cable at 11<sup>th</sup> position in the small socket (refer wiring diagram in section 12) as shown in below figure. NTC resistance value varies depending on temperature.



Component test

## 11.4. Valve

Valve is an electrical and mechanical component which is designed to take water from the network system into the washing machine. It is operated by PCB card.



Valve

### Technical features

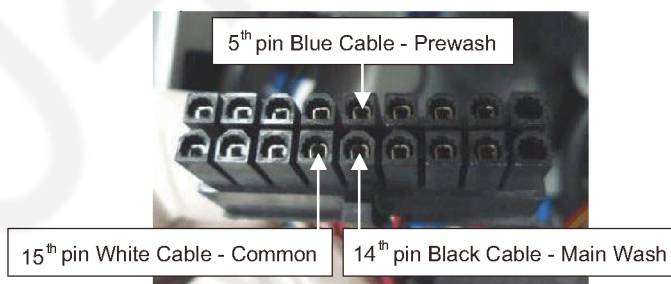
Nominal voltage	220-240 V	Rated flow	7 L/min ( $\pm 15\%$ )
Nominal power	8 VA	Operating water pressure	0.03 - 1 Mpa
Frequency	50-60 Hz		

### Testing component

Check the resistance value on the component with multimeter as shown below. Valve water flow rate should be between 6 - 8 L/min. Each valve coil resistance values should be between 3.3 - 4.2 k $\Omega$

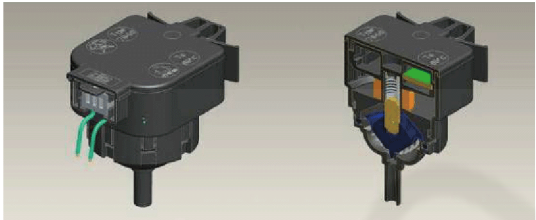






You can determine the resistance value of the main wash valve by measuring from the blue cable at 5th and white cable at 15th position or the pre-wash valve by measuring from the black cable at 14th and white cable at 15th position in the large socket (refer wiring diagram in section 12) as shown in below figure. Each valve coil resistance values should be between 3.3 - 4.2 kohm.



Component test

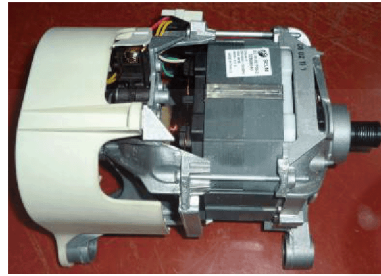
## 11.5. Electronic Pressure Sensor (EPS)

<p>Electromagnetic field occurs due to movement of pressurized membrane. The spring moves vertically by nucleus due to electromagnetic field. The water level is regulated according to the frequency changes of the spring by electronic card.</p>	 <p style="text-align: center;">EPS</p>
<b>Testing component</b>	
<p>Push the door lock slider with screwdriver.</p>	
<p>Select the 1st program and start the machine.</p>	
<p>Unplug power cable when as soon as water intake finishes and drum begins to rotate.</p>	
<p>Check the water level inside the drum with ruler. It should be 10 cm ±1.</p>	



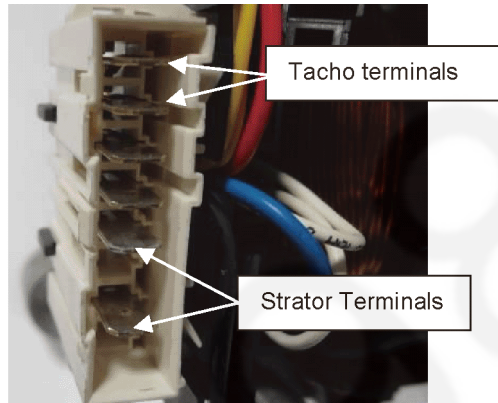
## 11.6. Motor

The washing machine has an asynchronous motor. It is controlled by the PCB. It is essential to check the motor for correct diagnosis and quick servicing. In the below picture, socket points on the motor is shown to measure with multimeter.



Motor

### Motor socket terminals

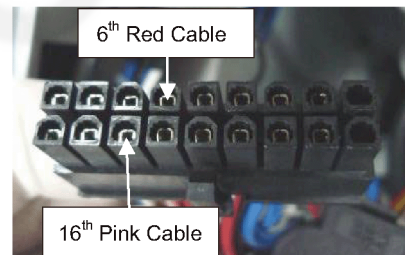


### Testing components

#### Tacho resistance control

Check the motor tacho terminals on the motor socket with multimeter as shown in the picture above.

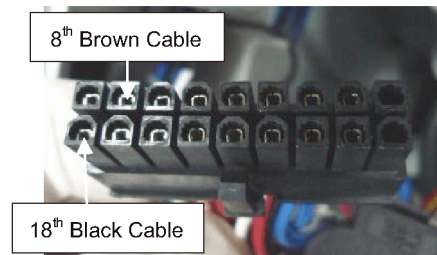
You can determine the ohm value by measuring from the pink cable at 16th and red cable at 6th position in the large socket (refer to section 12 Wiring Connection Diagram) as shown on right figure. For resistance values, refer to the table below.



#### Stator Resistance Control

Check the motor stator terminals on the motor socket with multimeter as shown in the picture.

You can determine the ohm value by measuring from the black cable at 18th and brown cable at 8th position in the large socket (refer to section 12 Wiring Connection Diagram) as shown on right figure. For resistance values, refer to the table below.



Tacho and stator resistance values of motor:

STATOR ( $\Omega$ )	TACHO ( $\Omega$ )	TEMPERATURE
1,20 $\pm$ %7 $\Omega$	87.7 $\pm$ %12 $\Omega$	20°C

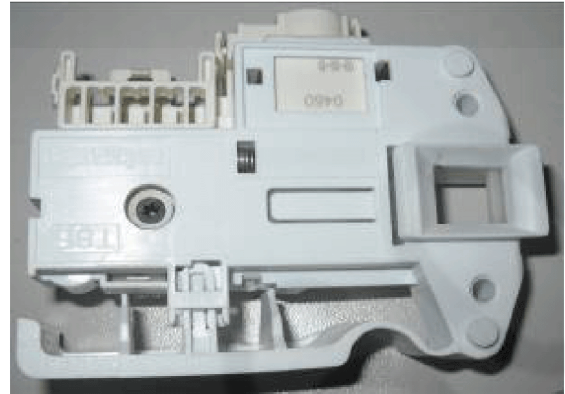


# 11.7. Door Lock

Door lock is activated at the beginning of the program in order to prevent the door from opening. Locking is generated by supplying power to PTC-bimetal, after max 6sec (220V), the bimetal will be warm and ready to close the contacts. Thus the first impulse to the solenoid will allow the contact to close and consequently the slider will be locked by the pin of the sliderlock. The second impulse causes no electrical and mechanical modifications. It can be unlocked by the third impulse; the contact is opened even if the PTC-bimetal remains energized.

### Emergency Opening System (PTC-Bimetal) In Case of Lack of Electric Energy

- In case of lack of electric energy during a washing cycle, the PTC-bimetal assembly will cool down and after minimum 60 sec (considering previous power supply of 30 sec min and  $T=20\text{ }^{\circ}\text{C}$ ) the door will be unlocked and thus can be opened.
- In case the door is closed when current comes back, the PTC-bimetal assembly will heat again, the slider lock will lock, the contact will close and the program will continue from where it stopped.



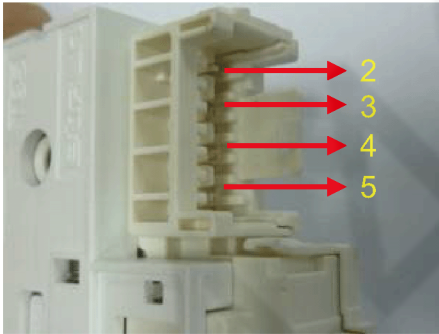
Door lock

#### Technical features

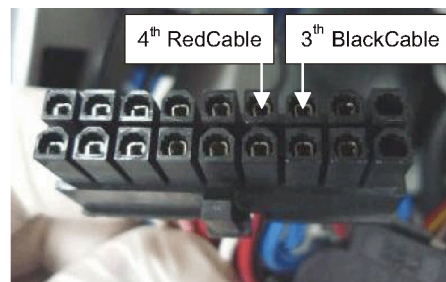
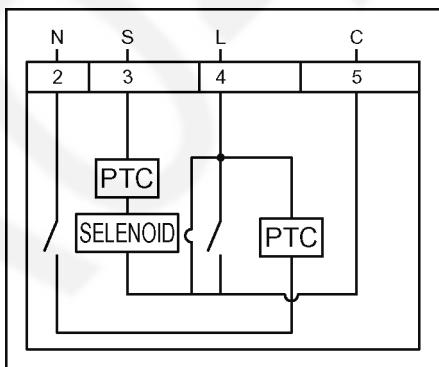
Nominal voltage 250 V

#### Testing component

Check the resistance value on the component with multi-meter as shown in below figures. Resistance value on the (PTC overload + solenoid) should be  $240\Omega \pm 20\%$  at  $25\text{ }^{\circ}\text{C}$ . That resistance value can be measured from terminal 3-4 (refer to section12 Wiring Connection Diagram).



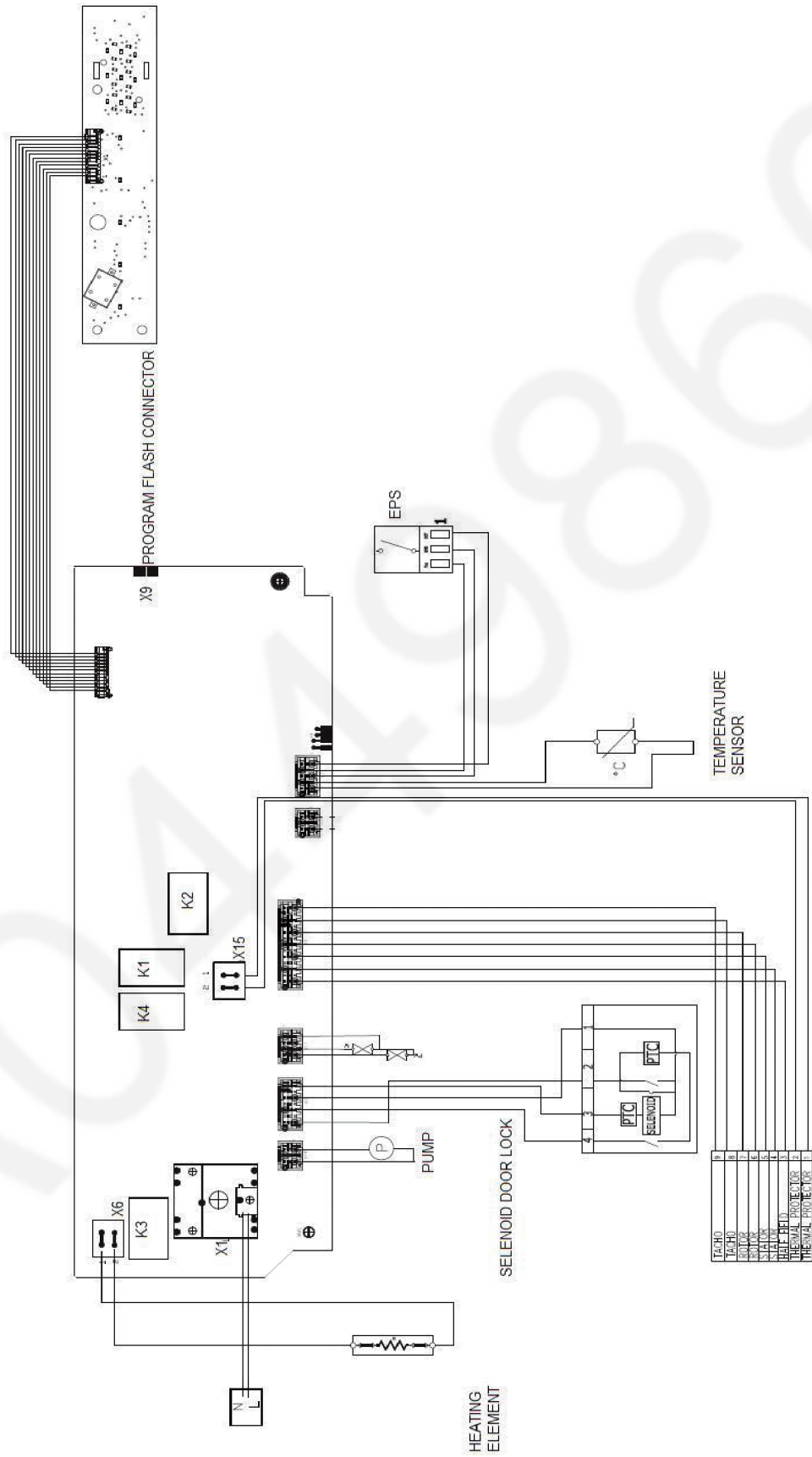
This socket shows the connection between terminal 3-4 (See wiring diagram below). The resistance read from terminal 3-4 is the resistance of PTC overload plus resistance of solenoid.



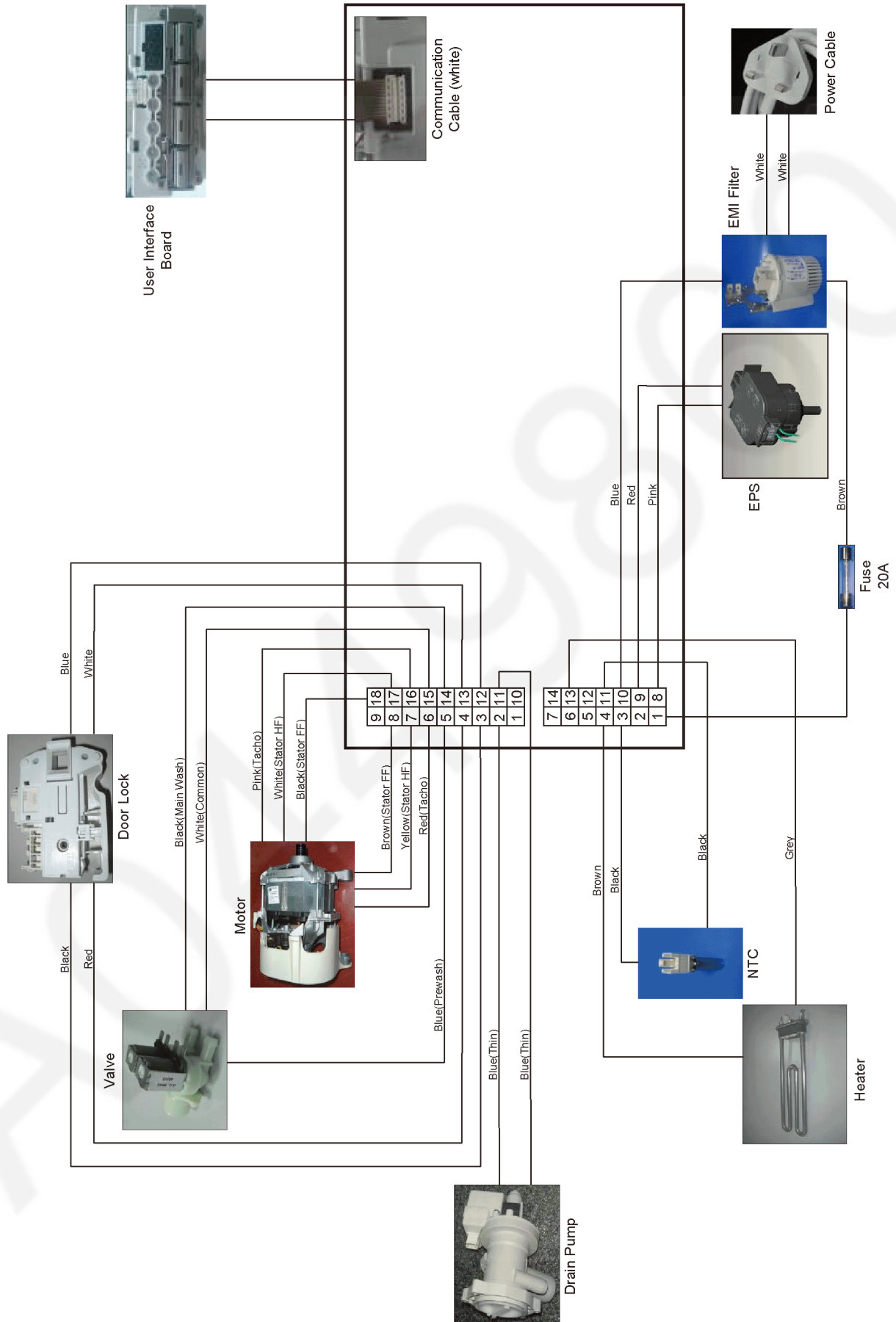
Component test

# 12 Wiring Connection Diagram

## 12.1. Wiring Diagram (Board)



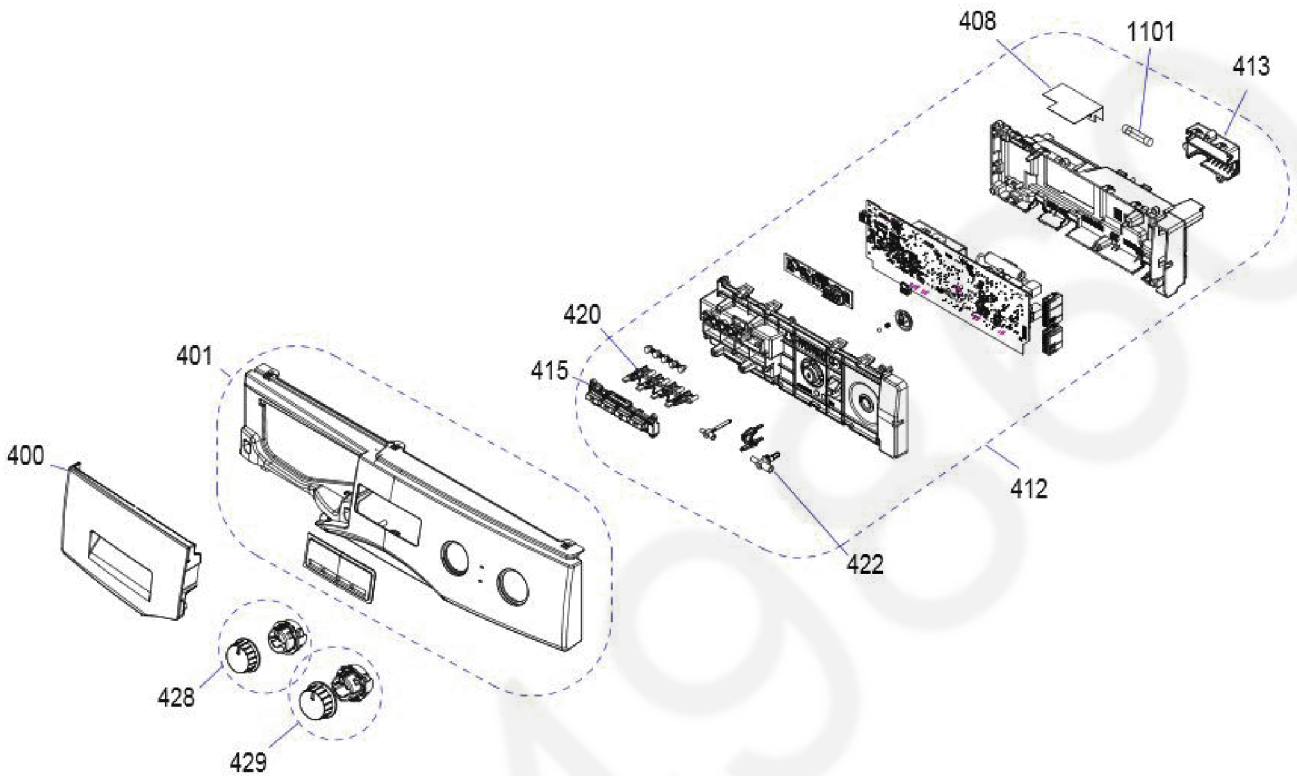
## 12.2. Wiring Diagram (Socket)



# 13 Exploded View and Replacement Parts List

## 13.1. Control Panel Spare Parts

### 13.1.1. Exploded View of Control Panel Spare Parts



### 13.1.2. Control Panel Spare Parts List

(U) : Indicates parts at the remarks that can be replaced by user.

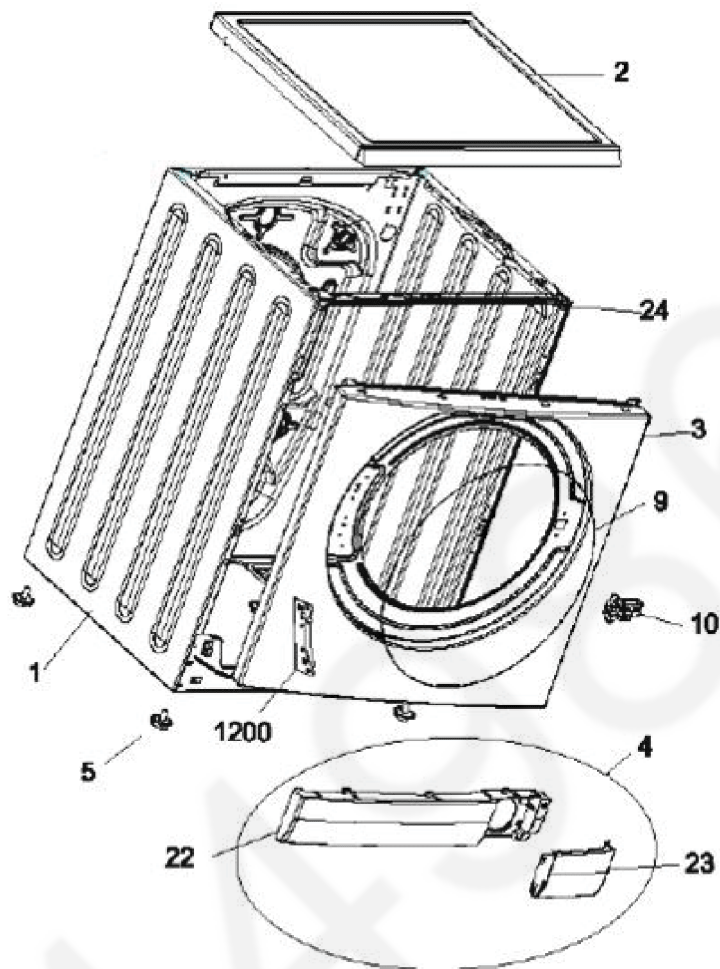
⚠ : Components identified ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacture's specified parts.

Safety	Ref. No.	Part Name & Description	Parts No.	Qty	Remarks
	400	DETERGENT DRAWER COVER	AXWDV-144362	1	NA-107VC5WAE
			AXWDV-144600	1	NA-107VC5WAS
			AXWDV-144380	1	NA-107VC5WPG
	401	CONTROL PANEL	AXWCV-144361	1	NA-107VC5WAE
			AXWCV-144599	1	NA-107VC5WAS
			AXWCV-144379	1	NA-107VC5WPG
	408	PCB FOIL	AXW1FS-7092	1	
⚠	412	ELECTRONIC CARD GR.	AXW24V-89860	1	NA-107VC5WAE
			AXW24V-14534	1	NA-107VC5WAS
			AXW24V-14534	1	NA-107VC5WPG
	413	PCB BOX CBL AND FUSE FOLDER COVER	AXW2CF-55340	1	
	415	SELECTION BUTTONS	AXW146-55880	1	
	420	LIGHT GUIDE QUAD	AXW146-55333	1	
	428	REV ADJ.KNOB GR	AXW6C-565960	1	
	429	PR. ADJ.KNOB GR	AXW6C-565950	1	
⚠	1101	FUSE	AXW1FS-13553	1	20A



## 13.2. Front Panel Parts

### 13.2.1. Exploded View of Front Panel Spare Parts

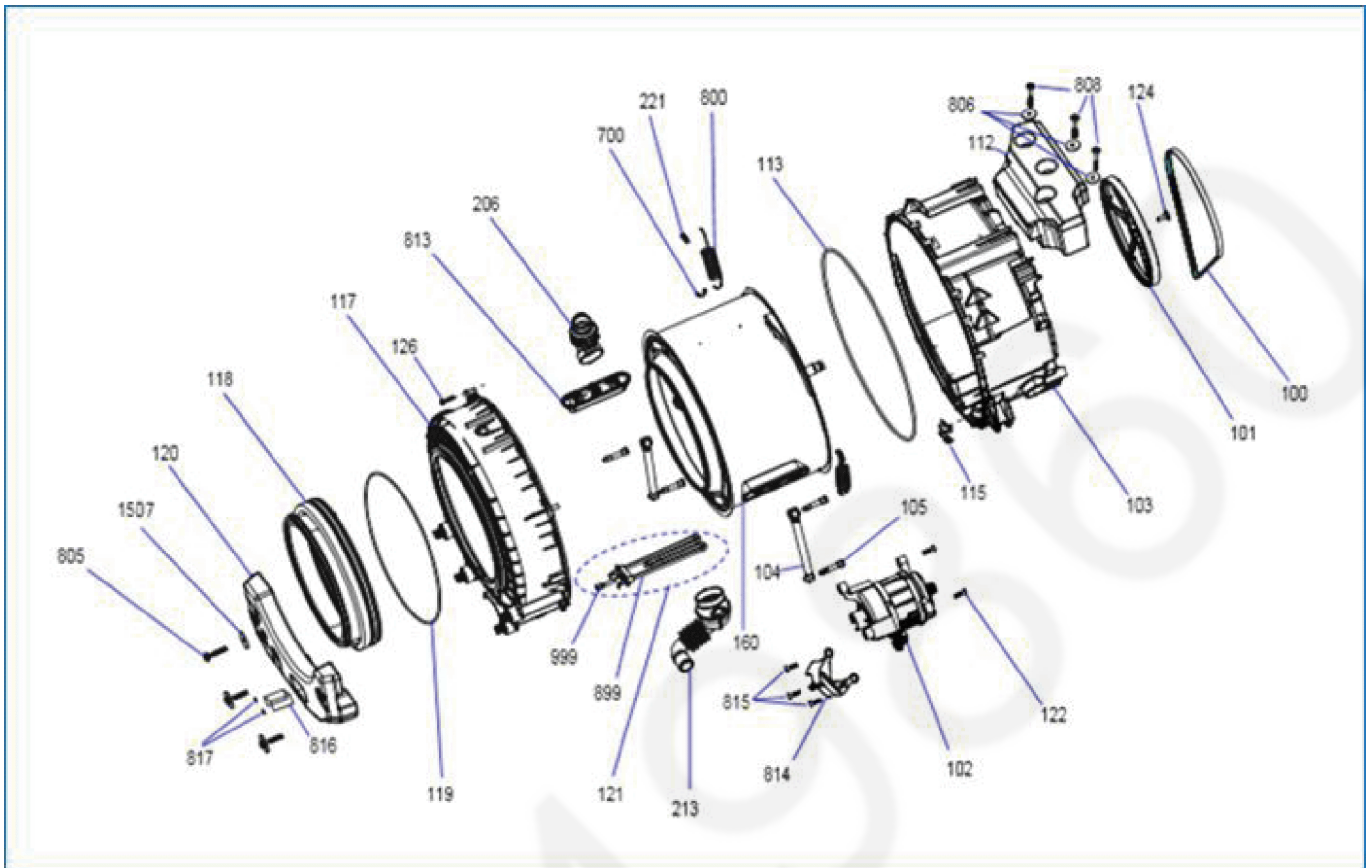


### 13.2.2. Front Panel Replacement Parts List

Safety	Ref. No.	Part Name & Description	Part No.	Qty	Remarks
	1	BODY GROUP PAINTED	AXW1AB-13489	1	
	2	UPPER TRAY GROUP	AXW11N-07630	1	(U)
	3	FRONT PANEL GROUP	AXW1BB-27922	1	
	4	PLINTH GROUP	AXW22S-23758	1	
	5	ADJUSTABLE FEET GR.	AXW31-00778	4	
	9	HOUSING FRAME BELLOW CLIP-PHY-TON	AXW1Z-023407	1	
△	10	DOOR LOCK	AXW1619-4463	1	
	22	PLINTH	AXW130-23756	1	
	23	PLINTH COVER	AXW140-23757	1	(U)
	24	UPPER SUPPORT BRACKET	AXW1US-79357	1	
	1200	HINGE SUPPORT SHEET-III	AXWHSS-19456	1	
	1201	FRONT PANEL GROUP( 3+1200 )	AXW1BB-60165	1	

### 13.3. Washing Group Spare Parts

#### 13.3.1. Exploded View of Washing Group Spare Parts

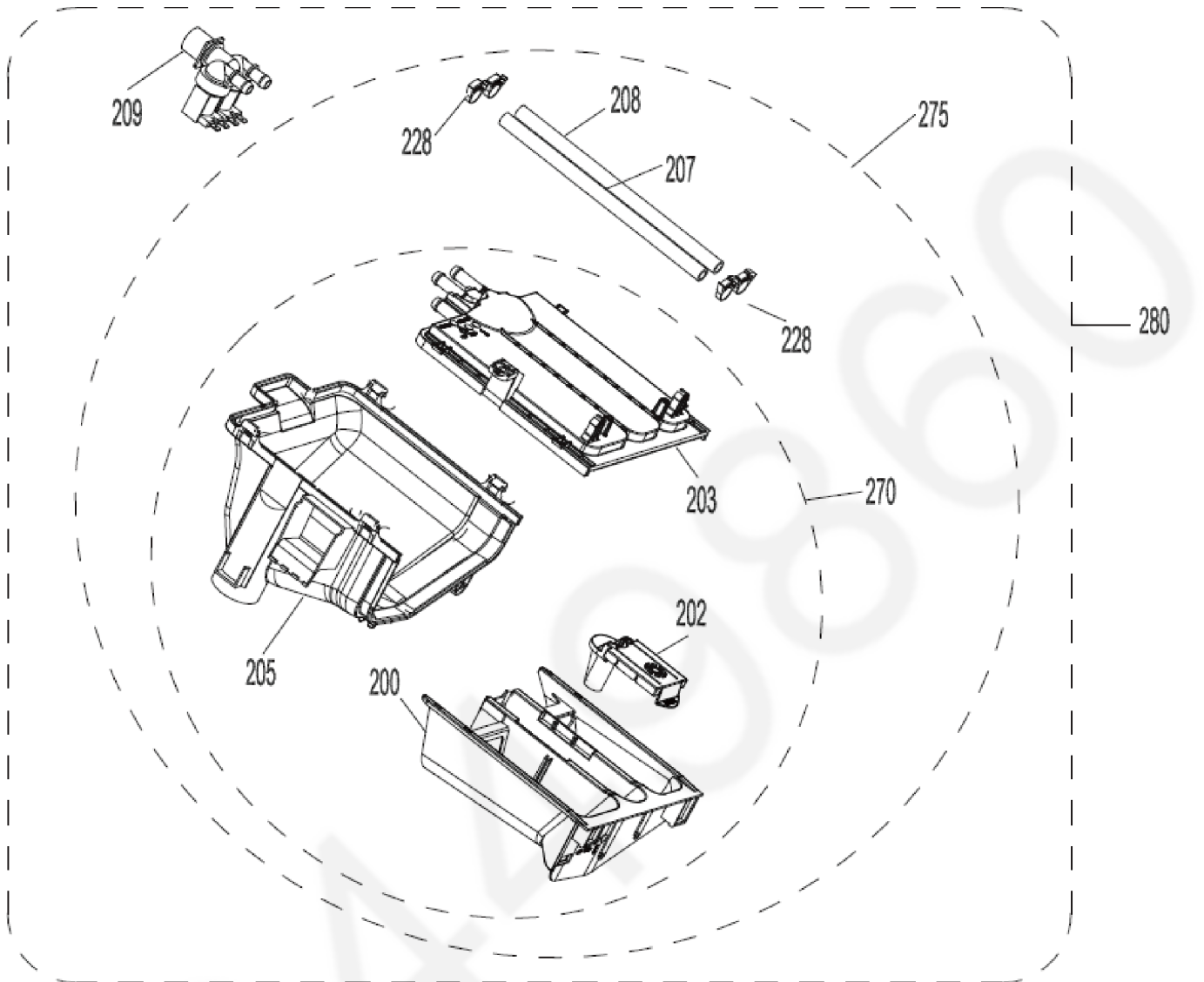


### 13.3.2. Washing Group Spare Parts List

Safety	Ref. No.	Part Name & Description	Part No.	Qty	Remarks
	103	REAR TUB GROUP	AXW12A-90585	1	
	117	FRONT TUB	AXW32G-59330	1	
	160	DRUM GROUP	AXW22B-85817	1	
△	102	MOTOR	AXW401-76070	1	
	113	TUB SEAL	AXW212-15077	1	
	101	DRIVEN PULLEY	AXW502-00499	1	
	100	BELT	AXW412-54890	1	
	122	COUNTERSUNK HEAD BOLT 8×28 TORX	AXWSS1-07899	4	
	206	TUB ENTERANCE WITH BELLOW HOSE	AXWEBH-14409	1	
	118	TUB BELLOWS SEAL	AXW212-04657	1	
	126	HEXAGON HEAD BOLT 6×30 PT	AXWSS3-14521	19	
	805	HEXAGON HEAD BOLT 10×52	AXWSB1-17567	4	
	1507	PLAIN WASHER 10.5×40×2.5	AXW420-08965	4	
	105	SHOCK ABSORBER PIN-2	AXWSAP-25094	4	
	119	TUB GASKET CLIP	AXW212-08555	1	
	120	FRONT CONCRETE WEIGHT	AXW1231-9244	1	
△	121	RESISTANCE GR	AXWRG1-96002	1	
△	999	NTC	AXW1EV-35970	1	
△	899	RESISTANCE WITHOUT NTC	AXWRG1-16814	1	
	115	RESISTANCE FIXING WIRE	AXWRFW-18738	1	
	104	SHOCK ABSORBER	AXWSA1-11586	2	
	213	TUB EXIT BELLOWS GR(HOSE+BALL)	AXW1250-7585	1	
	124	COUNTERSUNK HEAD BOLT M 8×29	AXWSB2-05142	1	
	700	TUB HANGER SPRING PART	AXWTHS-19298	2	
	221	HANGER SPRING SHEETIRON PLS.	AXW1HS-16727	2	
	800	TUB SPRING	AXW3441-5307	2	
	808	MUSHROOM HEAD SQUARE NECK BOLT M 8×65	AXWSB3-03063	2	
	806	PLAIN WASHER 8.4×28×3	AXWSW2-07454	2	
	813	PLASTIC LIFTER	AXW1PL-55352	3	
	112	UPPER CONCRETE WEIGHT	AXW1231-3323	1	
	814	MOTOR COVER	AXW430-04220	1	
	815	SCREW TT M4×12 PAN HEAD TORX	AXWSB9-19865	3	
	816	RESISTANCE PROTECTION FOIL-1-C	AXW1PF-07557	1	
	817	SCREW 3,5×7PAN HEAD WITH COLAR CROSS RE.	AXWSS4-15637	2	

## 13.4. Detergent Drawer Group Spare Parts

### 13.4.1. Exploded View of Detergent Drawer Group Spare Parts



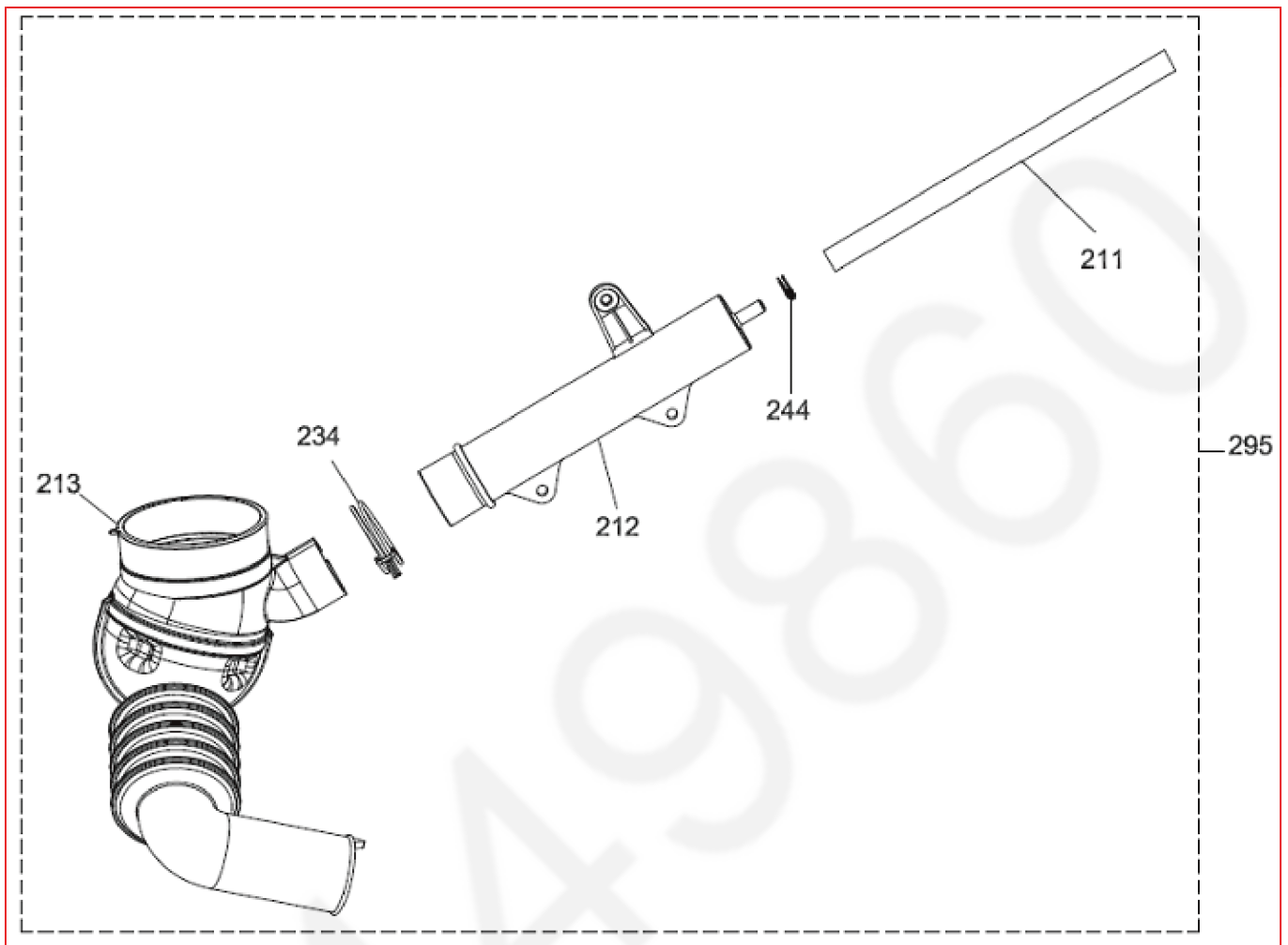
### 13.4.2. Detergent Drawer Group Replacement Parts List

Safety	Ref. No.	Part Name & Description	Part No.	Qty	Remarks
	200	DETERGENT DRAWER	AXW1V-019135	1	
	202	SIPHON COVER	AXW1PV-19134	1	(U)
	203	WATER DISTRIBUTION PLATE GR	AXW1WD-19141	1	
	205	DETERGENT DRAWER HOUSING	AXW1DD-19136	1	
	228	PLASTIC HOSE CLAMP	AXW1PH-04189	4	
	207	VALVE-DETERGENT BOX HOSE	AXW1VD-04536	1	220mm
	208	VALVE-DETERGENT BOX HOSE	AXW1VD-07796	1	240mm
⚠	209	VALVE(TWO EXIT)	AXW1VT-13042	1	
	270	DETERGENT BOX GROUP	AXW21D-21045	1	
	275	DETERGENT BOX GROUP/HOSE	AXW31D-22686	1	
⚠	280	DETERGENT BOX GROUP/FULL	AXW41D-56640	1	



## 13.5. Pressure Switch Hose Group Parts

### 13.5.1. Exploded View Pressure Switch Hose Group Parts

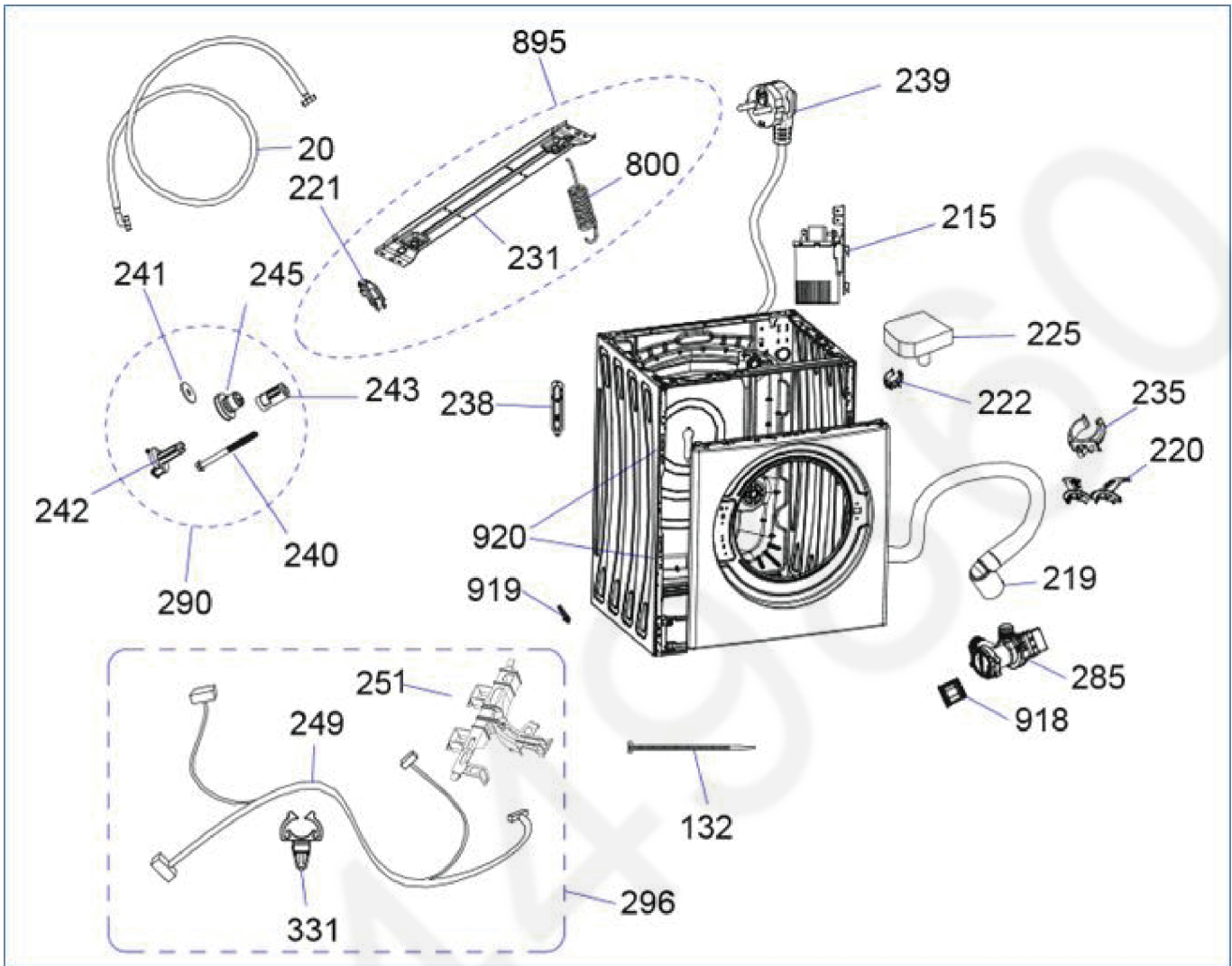


### 13.5.2. Pressure Switch Hose Group Replacement Parts List

Safety	Ref. No.	Part Name & Description	Part No.	Qty	Remarks
	211	PRESSURE SWITCH HOSE (EPDM)	AXW1PS-78599	1	
	212	PRESSURE SWITCH WATER RESERVOIR	AXW1PS-88879	1	
	213	TUB EXIT BELLOWS GR(HOSE+BALL)	AXW1250-7585	1	
	234	HOSE CLAMP $\phi$ 32,7	AXW1HC-07366	1	
	244	HOSE CLAMP $\phi$ 9,6	AXW1HC-08991	1	
	295	PRESSURE SWITCH HOSE GR.PYTHON BALL SYST	AXW2PS-79698	1	

## 13.6. Body Group Spare Parts

### 13.6.1. Exploded View of Body Group Spare Parts

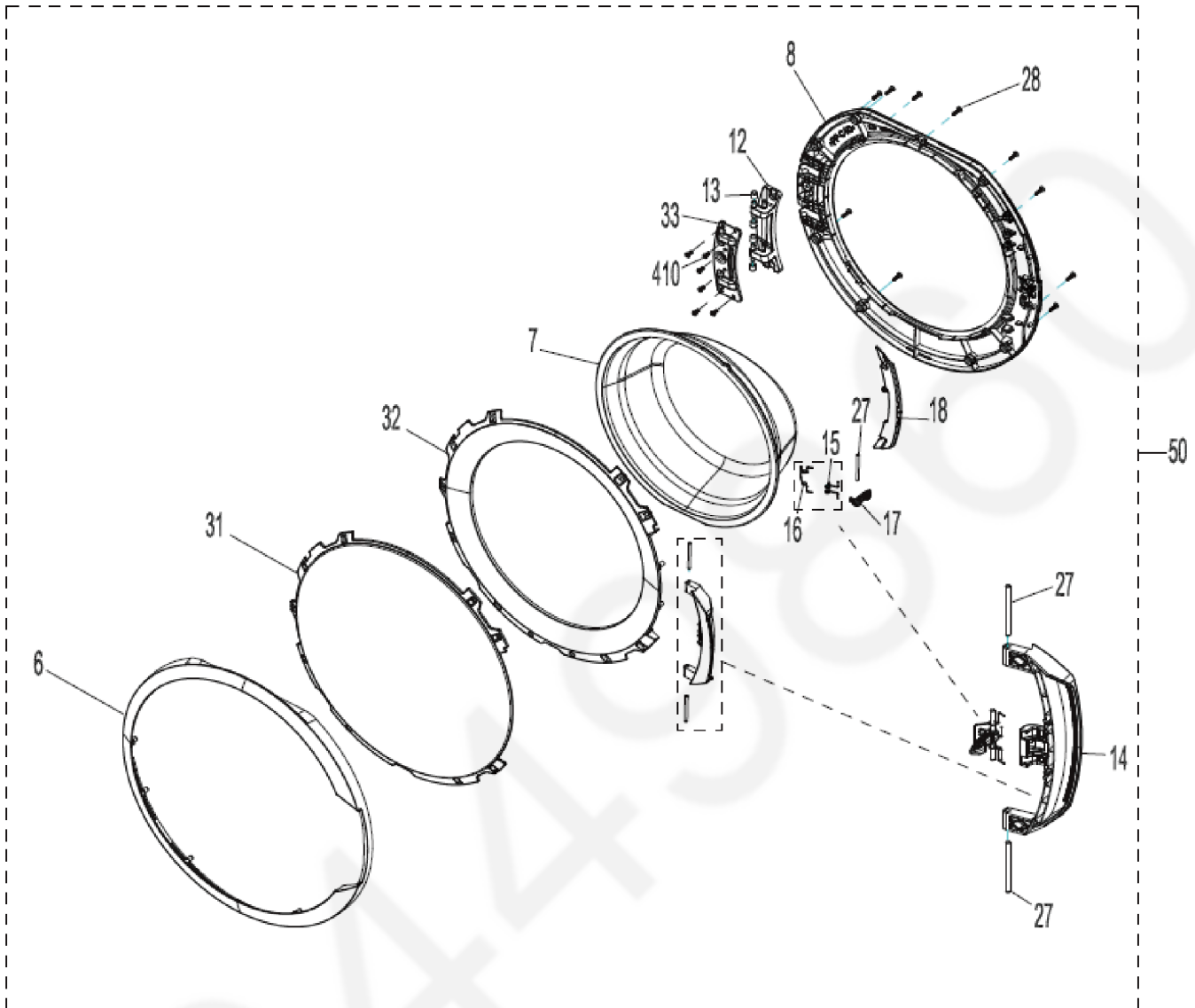


### 13.6.2. Body Group Replacement Parts List

Safety	Ref. No.	Part Name & Description	Part No.	Qty	Remarks
	20	WATER ENTRY HOSE GROUP	AXW12C-14423	1	(U)
△	285	PUMP GROUP	AXW8FT-07280	1	
	220	DRAIN HOSE ROUTER PLASTIC	AXW1DH-19322	1	
	219	DRAIN HOSE	AXW1DH-74837	1	
△	225	ELECTRONIC PRESSURE SENSOR	AXW1EP-06187	1	
△	215	EMI FILTER	AXW2EF-15002	1	
△	249	CBL HARN	AXW14B-35620	1	
	251	CABLE HARNESS HOLDER PLS	AXW1CH-28367	1	
	331	CABLE ROUTER PLS.	AXWCH-93407	1	
	800	TUB SPRING	AXW3441-5307	2	
	895	SPRING HANGER SHEETIRON GR	AXW1SH-37953	1	
	231	SPRING HANGER SHEETIRON	AXW2SH-79359	1	
	221	HANGER SPRING SHEETIRON PLS.	AXW1HS-16727	2	
	235	DRAIN HOSE HOLDING PLS	AXW1HC-14270	4	
△	239	POWER CORD GROUP	AXW4A-17512	1	NA-107VC5WAE
			AXW4A-17511	1	NA-107VC5WAS
			AXW4A-17511	1	NA-107VC5WPG
	222	PRESSURE SWITCH MOUNTING CLIP	AXW1HC-22768	1	
	238	SPEED CONTROL HOLE STOPPER	AXW1SC-06161	1	
△	296	CABLE GR	AXW2CB-23892	1	
	242	TRANSPORT SCREW PLASTIC-A-II	AXW1TS-18528	4	
	243	TRANSPORT SCREW PLASTIC-B-II	AXW1TS-60789	4	
	240	TRANSPORT SCREW	AXWSB4-08363	4	
	245	TRANSPORT SCREW EPDM	AXW1TS-60790	4	
	241	PLAIN WASHER 8,30×29×2	AXWSW1-15272	4	
	290	TRANSPORT SCREW GROUP-II	AXW2TS-15676	4	
	132	CABLE TIE(YKB150)	AXWCT-075920	7	
	918	DRAIN FILTER	AXWDF-653900	1	
	919	HOSE CLAMP $\phi$ 8,6	AXWHC-003440	1	
	920	FRONT PANEL DROP FIXING PLASTIC-II	AXW1TP-20456	4	

## 13.7. Porthole Group Spare Parts

### 13.7.1. Exploded View Porthole Group Parts



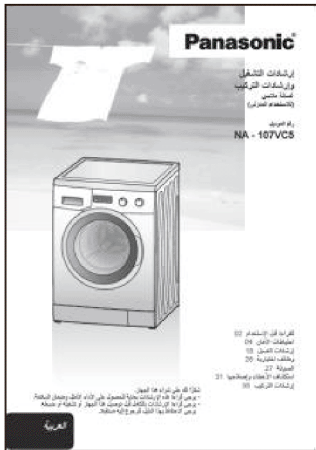
### 13.7.2. Porthole Group Replacement Parts List

Safety	Ref. No.	Part Name & Description	Part No.	Qty	Remarks
	28	SCREW 3.5×16PAN.HE.WITH COL.CR.RE.UN.HE.	AXWSS7-08715	10	
	8	INNER DOOR PLASTIC	AXW1DP-55347	1	
	12	HINGE II-M5	AXW192-15559	1	
	13	HINGE BUSHING II	AXW192-23907	4	
	33	DOOR HINGE SUPPORT SHEET	AXW192-08152	1	
	410	SCREW 4×12 PAN HEAD WITH COLLAR UNDER HE	AXWSB9-16360	6	
	18	INNER DOOR PLS INSERT PART	AXW1DP-55348	1	
	17	DOOR HOOK II.(METAL)	AXW1DH-08931	1	
	15	HOOK SPRING	AXW1HS-07443	1	
	16	HANDLE SPRING	AXW1HS-14985	1	
	7	DOOR GLASS	AXW1GD-03771	1	
	27	DOOR HANDLE TONGUE PIN	AXW1DH-07434	3	
	14	DOOR HANDLE	AXW1DH-55346	1	
	32	OUTER DOOR PLS. INNER FRAME	AXW1DS-75592	1	
	31	FRONT DOOR COVER	AXW1DC-75594	1	
	6	OUTER DOOR PLASTIC	AXW1DP-55344	1	
	50	PORTHOLE GROUP	AXW2DP-55950	1	(U)

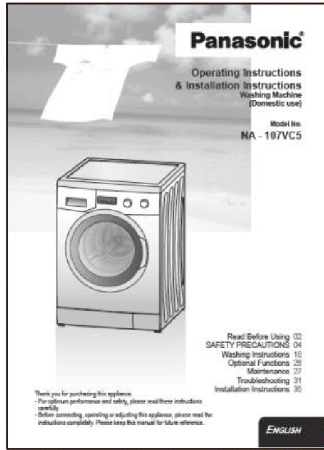


## 13.8. Accessories

### 13.8.1. Accessories View



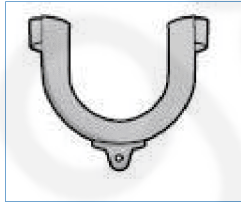
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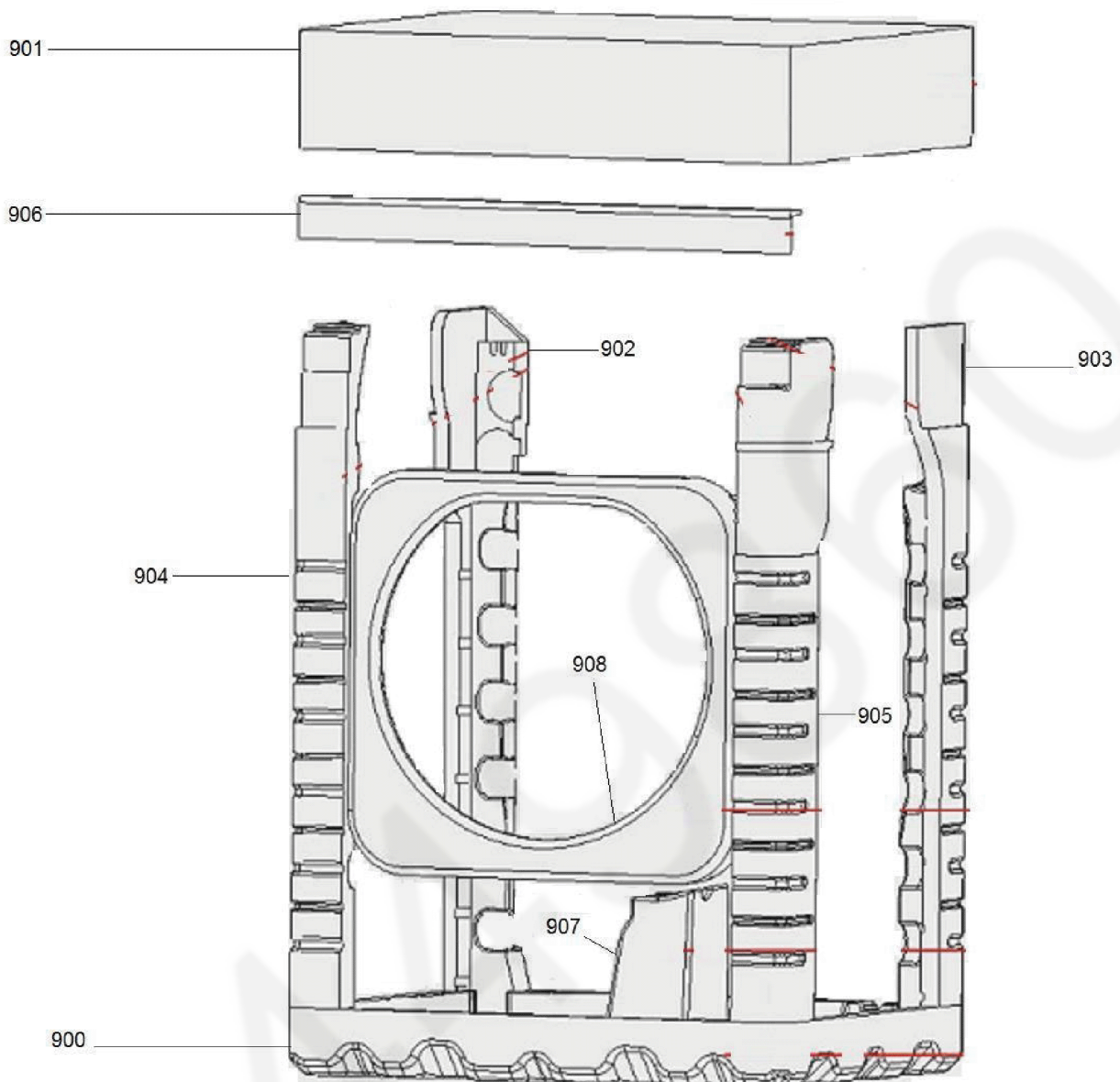
### 13.8.2. Accessories Spare Parts List

Safety	Ref. No.	Part Name & Description	Part No.	Qty	Remarks
	994	USER'S MANUAL	AXW4F-174895	1	MODEL:NA-107VC5WAE ENGLISH
			AXW4F-174896	1	MODEL:NA-107VC5WAE ARABIC
			AXW4F-175332	1	MODEL:NA-107VC5WAS ENGLISH
			AXW4F-175333	1	MODEL:NA-107VC5WAS ARABIC
			AXW4F-174933	1	MODEL:NA-107VC5WPG ENGLISH
			AXW4F-174934	1	MODEL:NA-107VC5WPG ARABIC
	995	ENERGY LABEL	AXW90EL-4897	1	NA-107VC5WAE
			AXW90EL-5334	1	NA-107VC5WAS
			AXW90EL-4935	1	NA-107VC5WPG
	996	LIQUID DETERGENT LEVEL PLATE	AXW90LD-9158	1	
	997	DRAIN HOSE COAT RACK	AXW90HC-0601	1	
	998	TRANSPORT SCREW STOPPER	AXW1TS-16405	4	

## 13.9. Packaging Group Spare Parts

### 13.9.1. Exploded View of Packaging Group Accessories





### 13.9.2. Package Group Spare Parts List

Safety	Ref. No.	Part Name & Description	Part No.	Qty	Remarks
	900	BOTTOM STYROFOAM	AXWPV-154370	1	
	901	TOP CARTON	AXWPV-125203	1	
	902	REAR STYROFOAM(LEFT)	AXWPV-277830	1	
	903	REAR STYROFOAM(RIGHT)	AXWPV-277820	1	
	904	FRONT STYROFOAM LEFT	AXWPV-277810	1	
	905	FRONT STYROFOAM RIGHT	AXWPV-280760	1	
	906	CORNER CARDBOARD	AXWPV-002040	1	
	907	TUB SUPPORT STYROFOAM	AXWPV-053000	1	
	908	PORTHOLE PRO. STYROFOAM	AXWPV-244940	1	
	909	PACKAGE CARTON	AXWPV-450840	1	