

VIKING PREFERRED SERVICE

DESIGNER DISHWASHERS



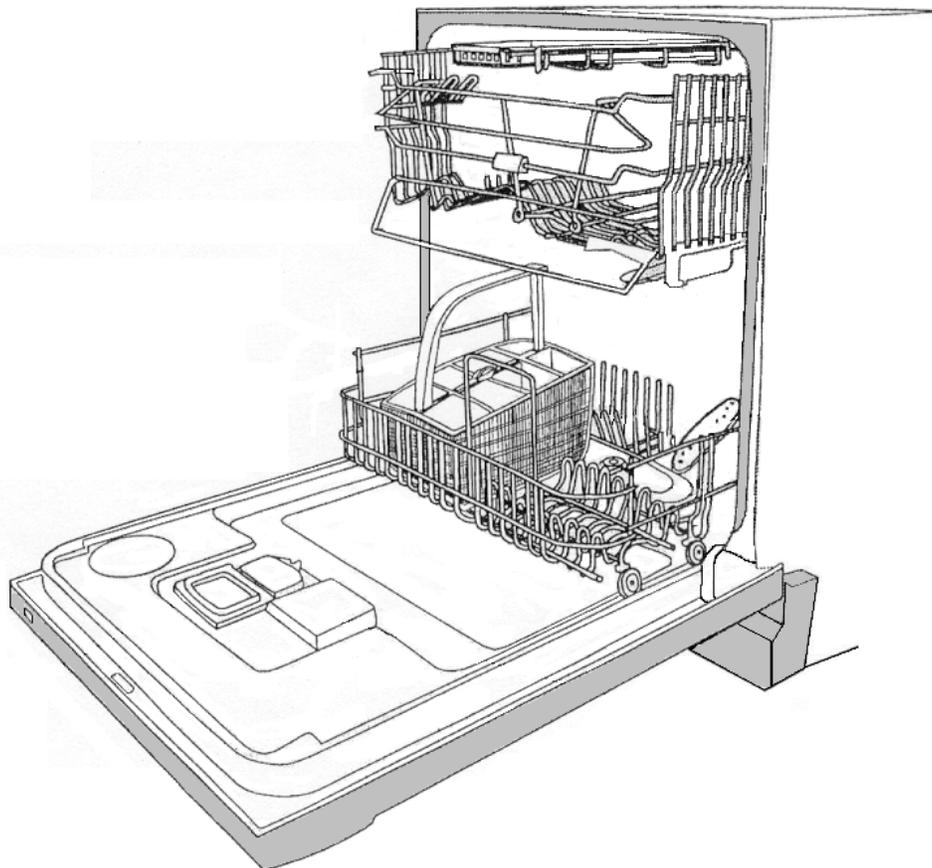
VIKING RANGE CORPORATION®

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DESIGNER DISHWASHERS

VIKING

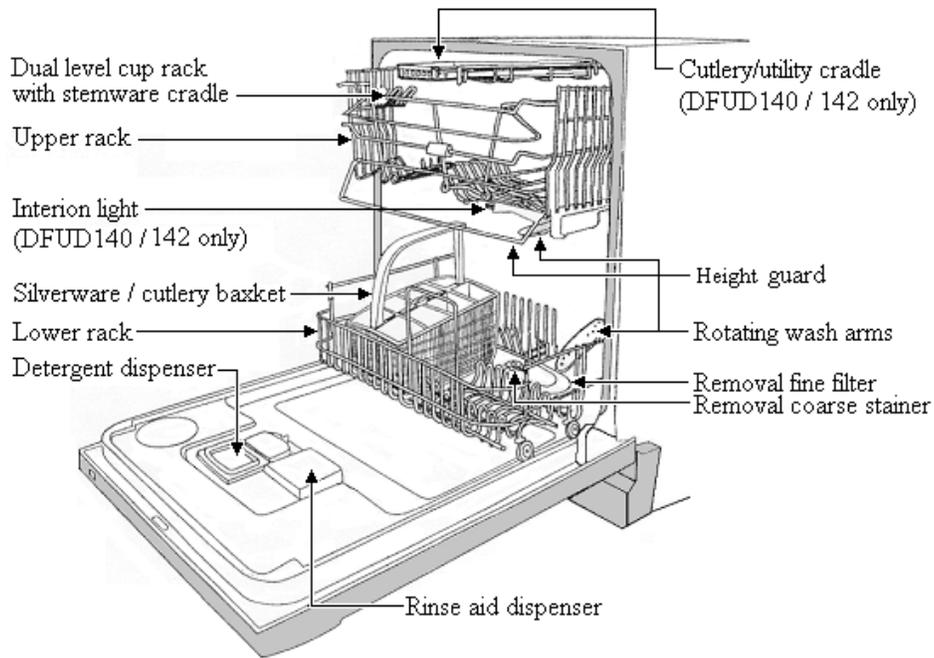
VIKING RANGE CORPORATION®



VIKING RANGE CORPORATION, P. O. DRAWER 956, GREENWOOD, MS.38930 USA

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The serial rating plate is located on the right hand side of the inner part of the door. Serial numbers are located in the lower right corner of the rating plate and give you the year and week of manufacture. Use complete serial number when referring for service.

HOUSEHOLD DISHWASHER	TYPE DW 20.3	VERIFIED FOR ENERGY PERFORMANCE	UL LISTED 6802
	120 V --- 1300 W		ART NO 107325031
	60 Hz 15A		
(M) 100 W			SERIAL NO 031200914818
			YEAR WEEK SERIAL NUMBER

DFUD042

KEY

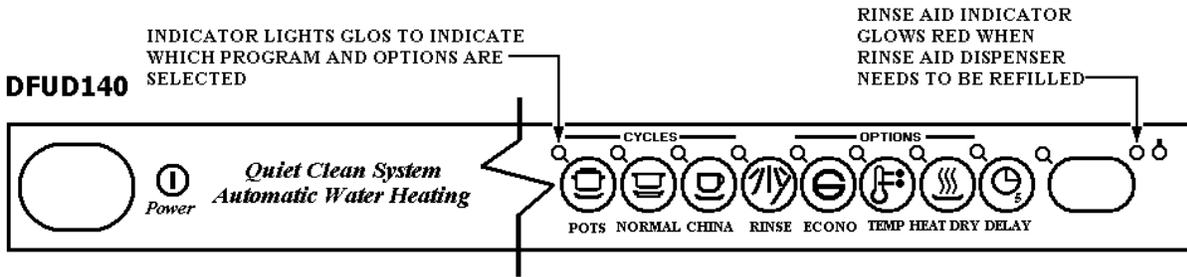
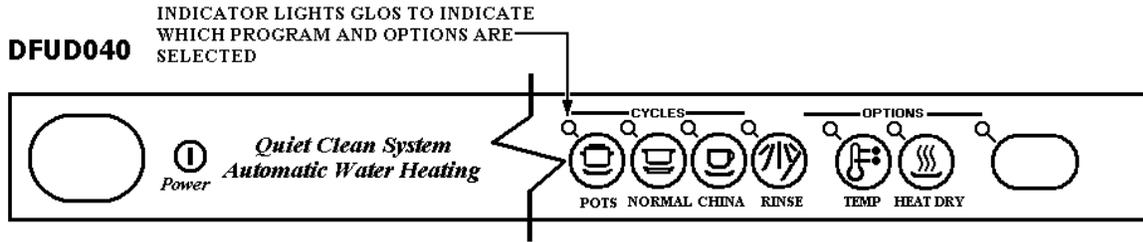
DFUD142

KEY

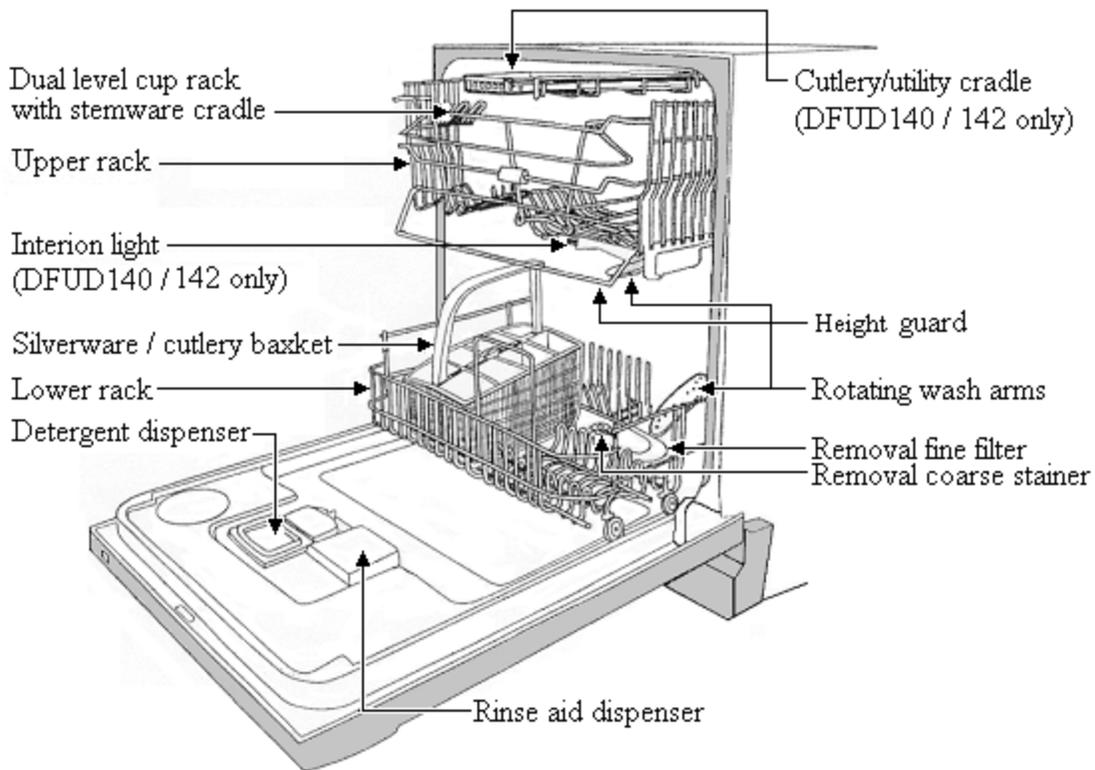
The buttons are on the top side of the control unit. The unit has six set programs and is available in two models, with three or five options.

POWER ← **MAIN SWITCH**

CONTROL PANELS



DISHWASHER FEATURES



WASH / CYCLE OPTIONS DFUD040 – DFUD140 CHANGING A PROGRAM

Wash Cycles



Pots

For heaviest soiled loads, such as pots and pans.



Normal

For normally soiled loads, such as plates, glasses, bowls and lightly soiled pans.



China

For lightly soiled loads that are washed immediately after use. Fine china and crystal can be washed in this program by using low temperature setting and turning off the Heat Dry



Rinse

To rinse dishes that you plan to wash later that day.



After you have selected the wash cycle and options, press Start. The indicator lights will flash rapidly, alternating from left to right. This merely means the machine is ready. Close the door securely to start the dishwasher.

Options



Econo

When with low temperature settings, this option further reduces energy consumption without diminishing cleaning performance by lowering the water temperature in the prewash and main wash and extending wash time. (DFUD140 only)



Temp

Selects a high or low water temperature for the wash program. Indicator light glows when on the high setting and remains off when on low setting.



Extra Dry

Raises temperature in final rinse and extends the drying time



Delay

Lets you delay running the dishwasher for five hours. After making your selections, press Delay then press start and close the door. The dishwasher will start five hours later. (DFUD140 only)

AFTER THE UNIT HAS STARTED

The dishwasher is programmed to stop operating if the door is opened during a cycle. If you want to change a program or option after starting the machine, open the door slightly to let the spray arms stop rotating and avoid getting sprayed with water. Press and hold START for three (3) seconds to cancel the current selection then press the touch pad(s) for your desired selection. Press Start again and close the door. The drain pump will run to remove any dirty water from the dishwasher before starting the newly selected cycle. Check to make sure there is still detergent in the detergent dispenser.

WHEN THE WASH IS FINISHED:

The indicator lights will come on for the last wash program and options that you used. (NOTE: The unit will not retain the Rinse or China program; it will revert to the Normal or Pots wash program.)

DFUD040 AND DFUD140

DESCRIPTION	WATER TEMP.	PRE-WASH	MAIN WASH	RINSE
Pots	130°F or 150°F (55°C or 66°C)	3	1	3
Normal	130°F or 150°F (55°C or 66°C)	2	1	2
China	110°F or 130°F (43°C or 55°C)	1	1	2
Rinse	—	0	0	1

DESCRIPTION	Total Water	Heat Dry Option	Total Wash Time – Minutes			
			Input Water 60°F (15°C)		Input Water 140°F (60°C)	
			A	B	A	B
Pots	6.5 gal (25.0L)	yes	125	130	90	95
Normal	4.6 gal (17.5L)	yes	110	115	70	75
China	3.6 gal (14.0L)	yes	85	95	60	65
Rinse	0.9 gal (3.5 L)	no	4	—	4	—

- A. Using the lower water temperature setting.
- B. Using the higher water temperature setting.

NOTE:

1. Does not include time for dry/heated dry
Econo option available for Pots, Normal, and China cycles on DFUD140 only.
 - Reduces temperature of main wash to 120° F (50° C)
 - Extends the duration of the wash cycle by 15 minutes.
2. Fan assists drying process even when Heat Dry is not selected, except on China cycle.

DFUD042 / DFUD142

Wash Cycles

-  For heaviest soiled loads, such as pots and pans, casserole dishes, etc. This cycle uses high water temperatures.
Pots/Pans
-  For heavily soiled items.
Heavy
-  For normally soiled loads, such as plates, glasses, bowls and lightly soiled pans.
Normal
-  For lightly soiled loads that are washed immediately after use. Fine china and crystal can be washed in this program by using low temperature setting and turning off the Heat Dry.
Light China
-  For very lightly soiled dishes.
Quick
-  To rinse dishes that you plan to wash later that day.
Rinse/Hold

Options

-  Allows you to choose to wash only the top rack, bottom rack, or both racks. The corresponding symbol lights the rack(s) you have selected. (DFUD142 only)
Top/Bottom rack
-  Selects a high or water temperature for the wash program. Indicator light glows when on the high setting and remains off when on low setting.
Temperature
-  Lets you delay running the dishwasher for five hours. After making your selections, press Delay then press start and close the door. The dishwasher will start five hours later.
Delay
-  Activates a longer drying cycle to dry the dishes.
Extra Dry
-  Washing time is reduced and wash temperatures are lowered. (Not available for use with Quick Wash or Rinse/Hold cycles). (DFUD142 only)
Express

Start After you have selected the wash cycle and options, press Start. The start symbol will flash. This merely means the machine is ready. Close the door securely to start the dishwasher.

Stop

CHANGING A PROGRAM AFTER THE UNIT HAS STARTED

The dishwasher is programmed to stop operating if the door is opened during a cycle. If you want to change a program or option after starting the machine, open the door slightly to let the spray arms stop rotating and avoid getting sprayed with water. Press and hold START for three (3) seconds to cancel the current selection then press the touch pad(s) for your desired selection. Press Start again and close the door. The drain pump will run to remove any dirty water from the dishwasher before starting the newly selected cycle. Check to make sure there is still detergent in the detergent dispenser.

WHEN THE WASH IS FINISHED:

The indicator lights will come on for the last wash program and options that you used. (NOTE: The unit will not retain the Rinse/Hold or Quick program.)

CYCLE DATA
DFUD042 / 142

DESCRIPTION	WATER TEMP.	PRE-WASH	MAIN WASH	RINSE
POTS/PANS	140° F or 170° F (60° C or 75° C)	2	1	3
HEAVY	130° F or 160° F (55° C or 70° C)	2	1	2
NORMAL	130° F or 140° F (55° C or 60° C)	1	1	2
LIGHT/CHINA	105° F or 120° F (40° C or 50° C)	—	1	2
QUICK	85° F or 120° F (30° C or 50° C)	—	1	2
RINSE/HOLD		—	—	1

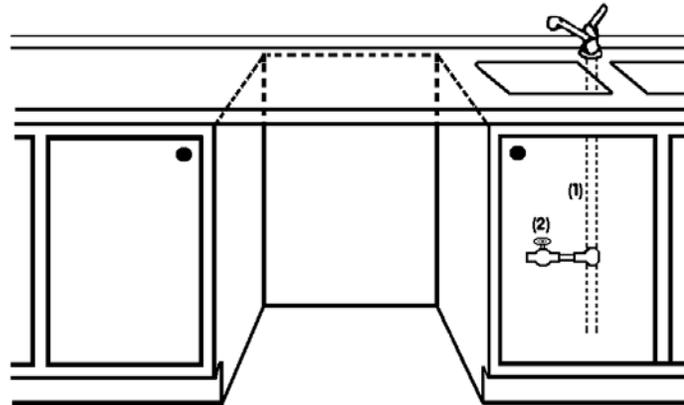
DESCRIPTION	EXTRA DRY OPTION	TOTAL WATER GAL (L)	TOTAL WASH TIME- MINUTES			
			INPUT WATER 60° F (15° C)		INPUT WATER 120° F (49° C)	
			A	B	A	B
POTS/PANS	YES	4.5	230	240	190	195
HEAVY	YES	4.5	210	220	175	185
NORMAL	YES	3.4	110	120	85	95
LIGHT/CHINA	YES	2.4	110	115	85	90
QUICK	YES	2.1	25		15	
RINSE/HOLD	YES	0.8	4		4	

- A. Using the lower water temperature setting.
 - B. Using the higher water temperature setting.
- NOTE:** Includes time for dry

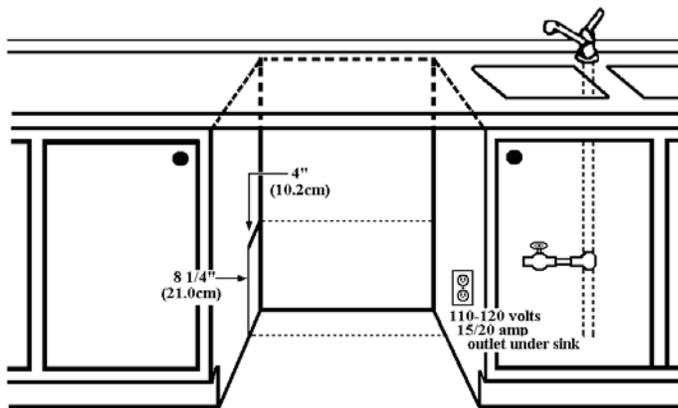
INSTALLATION

WATER SUPPLY: Water pressure for the water supply should be minimum 18 to 176 psi. The water inlet valve is on the right rear of the machine.

The dishwasher should preferably be connected to a hot water supply (2). If cold water supply is used, the washing times will be longer. (See Cycle Data page #)

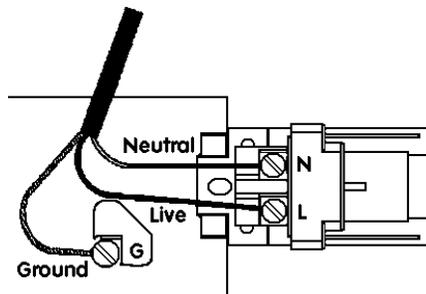


It's important that the water supply line and shut-off valve have a sufficient flow volume, at least 3 gallons (12 liters) per minute must be able to pass through the line.

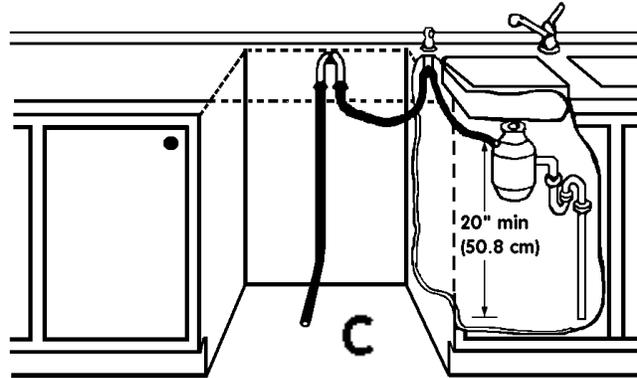


ELECTRICAL CONNECTIONS:

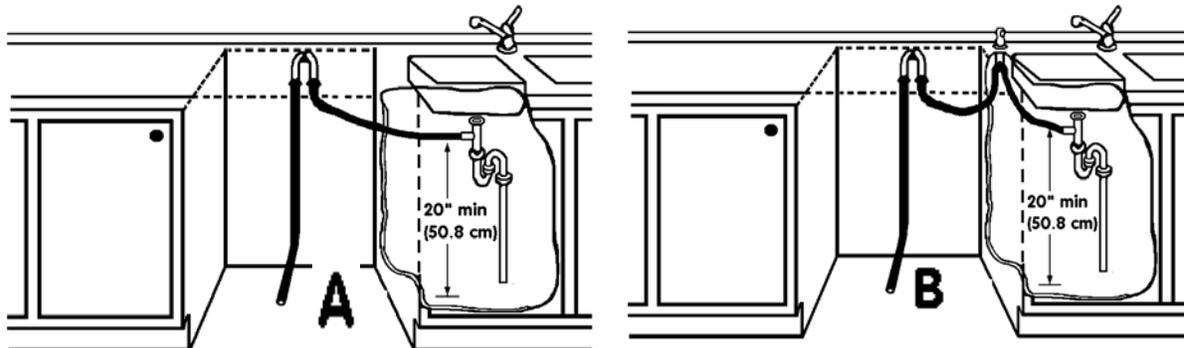
The dishwasher comes with a 6' (1.8cm) electrical cord for 110-120 volts, 15/20 supply. This cord should be plugged into the 110-120 volt outlet under the sink. If the cord is not long enough or if a hard wire installation is needed, see illustration below.



DRAIN: A drain hose is provided with the dishwasher which is connected to the back of the unit to form a high loop. The access hole for the drain line should be at a minimum of 20" from the floor. If the hose provided is not long enough, extend it with a 7/8" copper tube. Do not use any fittings anywhere in the drain line that are less than 7/8". If the drain line is going to be connected to a waste disposer, be sure to remove the knock out or plug from the fitting on the disposer before connecting drain line. The dishwasher drain hose has a factory installed check valve. Do not add an additional check valve.



Different ways to connect the drain line: (A) Typical drain connecting to sink plumbing before trap (high loop drain). (B) Connection to an air gap, then to the trap. (C) Connection to a waste disposer with air gap.



CAUTION: Failure to provide either the proper drain connection height above floor level or a 20" high loop will result in improper draining of the dishwasher, which will cause damage to the dishwasher.

NOTE: The drainage hose can be extended to a maximum length of 10 feet. Joints and jointed tubes, if any must have an Inside Diameter (ID) of a least 7/8". No part of the drain hose must have a position higher than 35" above the floor. The hose must not be drawn straight to a floor well or its equivalent. The hose might then function as a siphon-emptying the dishwasher.

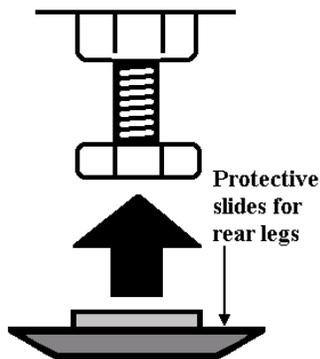
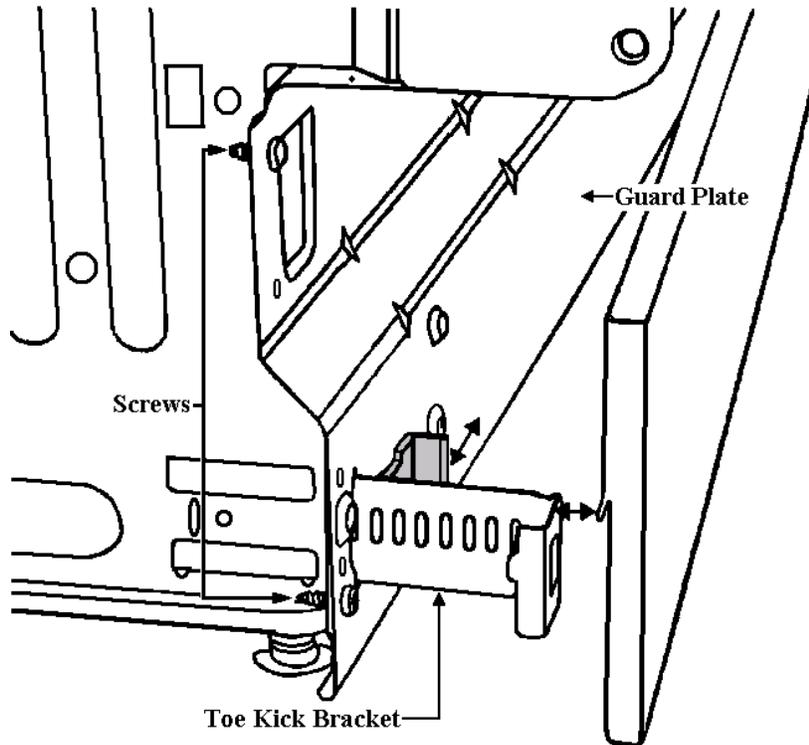
REMOVING THE TOE KICK BRACKETS AND GUARD PLATE:

(This may only be necessary if a hardware installation kit was used.)

To remove the toe kick brackets, pull the gray tabs towards the middle of the dishwasher. Then, pull straight out on the brackets.

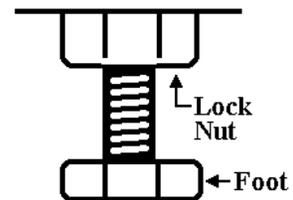
There are six screws that hold the guard plate in place, two on the upper/underneath side and four on the front. To remove the guard plate, remove the six screws holding the guard plate.

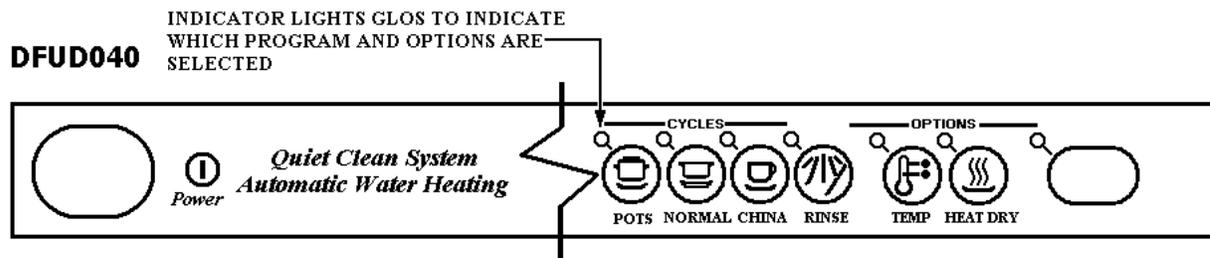
Grip the bottom of the guard plate and pull it toward you to remove it. You can now access the inlet valve and electrical connection.



The dishwasher comes with two white plastic slides for the rear legs to protect the kitchen floor from being damaged when you slide the unit into place. The slides snap onto the rear legs.

Adjust the feet of the dishwasher with a 1/2" wrench to fit the opening. The dishwasher may have a maximum inclination of 2 degrees without affecting its performance. When the legs are adjusted, tighten the locking nuts to the base pan.





DFUD040 Fault Testing:

- 1) Press the **RINSE** cycle button five times within 15 seconds to enter the component test mode.
- 2) Press the **POTS** cycle button to test the inlet valve.
- 3) Press the **NORMAL** cycle button once to test the detergent dispenser. (Be sure to close the dispenser before this test is preformed)
- 4) Press the **NORMAL** cycle again to test the rinse aid dispenser.
- 5) Press the **CHINA** cycle button once to test the heating element. (Use caution when checking the heating element as an injury may occur.)
- 6) Press the **RINSE** cycle once to test the circulation pump. (Pump will continue to operate until another button is pressed.)
- 7) Press the **HEAT DRY** button once to test the drain pump and vent fan motor (Pump and fan will continue to operate until another button is pressed.)

To exit this test mode press **START/STOP** once.

Inlet Time Adjustments:

- 1) Press **CHINA** cycle button five times within 15 seconds to enter this mode.
- 2) Press **POTS** to reset to the normal default fill time.

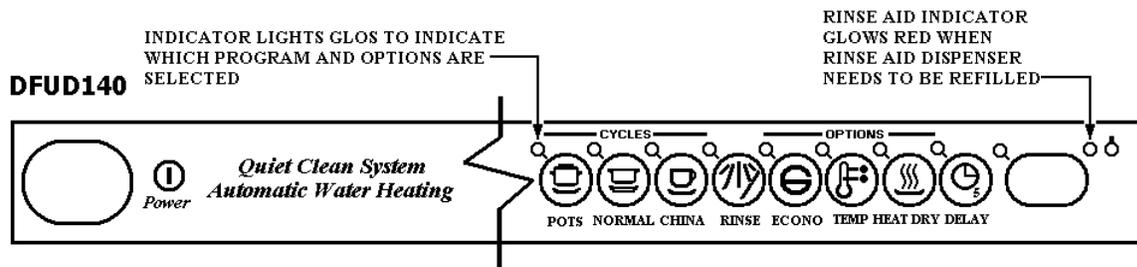
- 3) Press **NORMAL** once to increase fill time by fifteen seconds.
- 4) Press **CHINA** once to increase fill time by thirty seconds.
- 5) Press **RINSE** once to increase fill time by sixty seconds.
- 6) Press **HEAT DRY** once to increase fill time by one hundred seconds.

Drain Time Adjustments:

- 1) Press **POTS** cycle button five times within 15 seconds to enter this mode.
- 2) Press **POTS** once to decrease drain time by five seconds.
- 3) Press **NORMAL** once to reset the drain time to the normal default mode.
- 4) Press **CHINA** once to increase the drain time by ten seconds.
- 5) Press **RINSE** once to increase the drain time by twenty seconds.
- 6) Press **HEAT DRY** once to increase the drain time by sixty seconds.

Protected Start

- 1) Press **NORMAL** cycle button five times within 15 seconds to enter this mode.
- 2) Press **CHINA** once to obtain a three second protected start.
- 3) Press **NORMAL** once to obtain the normal default start.



Fault Tracing: Press TEMP (6) five times and then:

- 1) Press **Normal** (2) to start **Inlet Valve 2** (Not on all models)
- 2) Press **China** (3) to start **Inlet Valve 1**
- 3) Press **Rinse** (4) to start **Combination Dispenser**
- 4) Press **Econo** (5) to start **Heater**
- 5) Press **Temp** (6) to start **Circulation Pump**
- 6) Press **Heat Dry** (7) to start **Drain Pump** (and Fan/Vax motor VUD040)
- 7) Press **Delay** (8) to start **Fan/Vax Motor** (not DFUD040)

Press Start/ Stop to exit Fault Mode.

Drain Time Adjustments: Press China (3) five times to Enter Reprogramming Mode.

- 1) Press **China** (3) to get **20** seconds Drainage Time
- 2) Press **Rinse** (4) to get **25** seconds Drainage Time
- 3) Press **Econo** (5) to get **35** seconds Drainage Time.
- 4) Press **Temp** (6) to get **45** seconds Drainage Time.
- 5) Press **Heat Dry** (7) to get **85** seconds Drainage Time.

Extra Rinse: You can get an extra rinse in the programs, Pots, Normal and China by doing this:

- 1) Press **Normal** (2) five times within 15 seconds. Then you get into the changing program. The program will show how many rinses the machine last gave, and you get an extra rinse or press **Rinse** and you get the normal number of rinses.

Inlet Time: Press Econ (5) five times to Enter Reprogramming Mode.

- 1) Press **China** (3) to get **normal** Inlet Time (Default)
- 2) Press **Rinse** (4) to get **25%** increase (75 sec.)
- 3) Press **Econo** (5) to get **50%** increase (90 sec.)
- 4) Press **Temp** (6) to get **100%** increase (120 sec.)
- 5) Press **Heat Dry** (7) to get **150%** increase (150 sec.)
- 6) Press **Delay** (8) to get **200%** increase (180 sec.)

Protected Start Program: Press Rinse and Hold (5) five times and then:

- 1) Press **Econo** (5) once for **Protected Start** (3 sec.)
- 2) Press **Rinse** (4) once for **Normal Start**.

Extended Fan Cooling: You can cool down the washing items under 30 minutes after heated drying by the fan cooling. Press Econo (5) for extended fan cooling.

- 1) Press **Pots** (1) five times within 15 seconds. Then you get into the **changing program**.
- 2) Press **Rinse** (4) and you get **30** minutes **extra fan cooling**, or press **China** and you get the **normal fan cooling**.

Geographical location of switches on the



keyboard. (Some switches are not displayed on some models.)

THE INDICATING LAMPS DFUD140

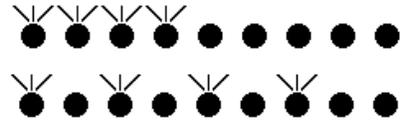
The indicating lamps serve several purposes: besides showing the selected program, they are also used if you need to trace a fault in the machine.

- Indicates that the door is open when attempting to start a program, — 
- or is opened while a program is running — 
- Indicates a fault in the heater. — 
- Indicates high water level in the machine — 
- Indicates a thermistor fault (heater control) — 

FAULT TRACING: If the machine doesn't work properly, you can identify the reason. This allows you to describe to service personnel and save repair time.

Start the fault-tracing program by pressing TEMP pushbutton 5 times within 15 seconds.

These lamps will respond by flashing:



Marked
symbol:

Tests:

If nothing is wrong, this happens after closing the door:

	Water inlet valve	Water can be heard entering.
	Detergent / rinse aid solenoid	There will be a click, and detergent/rinse aid is coming out
E	Heater	The element heats up. WARNIG: Don't touch it!
	Circulation pump	The pump starts
	Outlet pump	The pump starts
	Fan motor	The fan starts and air is blowing out by the lower left corner of the door.

Leave the test program by pressing **START**

DFUD040/140

Illustrated below is a normal program and the sequence in which the various components are connected.

NORMAL WASH

<u>Component</u>	<u>Comments</u>
Outlet pump	25 seconds

RINSE/HOLD

Inlet valve	540 pulse*	0.7 gal
Circulation pump	30 sec	High pressure upper arm**
Pause	1 sec	
Circulation pump	240 sec	High pressure lower arm**
Circulation pump	60 sec	High pressure upper arm**
Circulation pump	240 sec	High pressure lower arm
Circulation pump	60 sec	High pressure upper arm
Outlet pump	2 sec	SCS stage
Circulation pump	20 sec	SCS stage, High pressure upper arm
Outlet pump	25 sec	

CLEANING STEP

Inlet valve	300 pulse*	0.4 gal
Circulation pump	30 sec	High pressure upper arm
Pause	5 sec	
Circulation pump	5 sec	High pressure upper arm
Pause	5 sec	
Circulation pump	5 sec	High pressure upper arm
Outlet pump	25 sec	

MAIN WASH

Inlet valve	540 pulse*	0.7 gal
Circulation pump	60 sec	High pressure upper arm
Circulation pump, dispenser	3 sec	High pressure upper arm
Circulation pump, element	90° F	Enzym step
Circulation pump	180 sec	
Circulation pump, element	130° F	
Circulation pump	600 sec	
Circulation pump	60 sec	High pressure upper arm
Outlet pump	2 sec	SCS stage
Circulation pump	20 sec	SCS stage, high pressure upper arm
Outlet pump	25 sec	

CLEANING STEP

Inlet valve	140 pulse*	0.2 gal
Circulation pump	20 sec	Low pressure lower arm
Outlet Pump	25 sec	

FIRST RINSE

Inlet valve`	540 pulse*	0.7 gal
Circulation pump	240 sec	
Circulation pump	60 sec	High pressure upper arm
Outlet pump	2 sec	SCS stage
Circulation pump	20 sec	SCS stage
Outlet pump	25 sec	

LAST RINSE

Inlet valve	540 pulse*	0.7 gal
Circulation pump	60 sec	
Circulation pump, element	122° F	
Circulation pump, dispenser	60 sec	
Circulation pump	240 sec	
Circulation pump	50 sec	High pressure upper arm
Pause	60 sec	Drip off
Outlet pump	25 sec	

85 seconds between Circulation pump and fan start

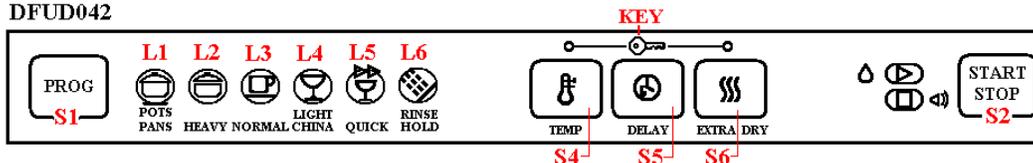
DRYING

Fan	1200 sec
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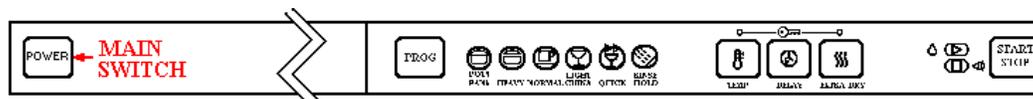
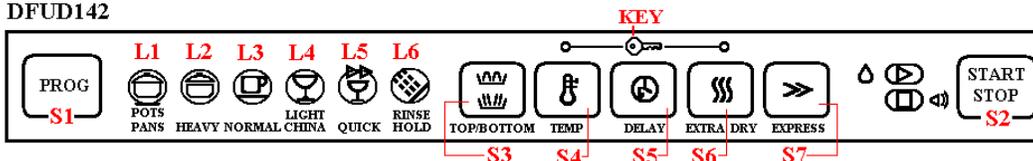
*** Pulse = number of pulses from the flow sensor to obtain the given quantity of water**

**** Applicable to a machine with spray arm dividers. 1 stage (with an additional circulation pump) where not spray arm divider status is indicated, sequential 30 seconds lower arm low pressure, 30 seconds lower arm high pressure, 30 seconds upper arm low pressure, 30 seconds upper arm high pressure are intended.**

DFUD042



DFUD142



Drying Selection:

(LED lights when long drying is selected).
Long and Normal drying (Quick wash; Long and Short drying.)

Washing in both Baskets:

Both baskets washing (basic setting). The machine's upper and lower baskets are loaded with items to be washed.

Washing in Upper Basket: (DFUD142 only) Most of the process water is directed by the spray arm divider to the upper spray arm.

Washing in Lower Basket: (DFUD142 only)

Most of the process water is directed by the spray arm divider to the lower spray arm.

Delayed Start:

Program start delayed by five hours.

Express: (DFUD142 only)

Reduces the main wash temperature and lowers the rinse temperature in machines with a fan and shortens the drying time.

Variant (Variable) Settings:

If the control unit is replaced, the machine will automatically be in the variant setting menu when the power supply is switched on for the first time.

1) Press the program button S1 repeatedly until the desired model is selected.

L1 lit: Model without Super rinse option (S7)

L2 lit: Model without Super rinse option (S7)

2) Confirm your choice by pressing Start (S2). The machine senses the presence of the turbidity and pressure sensors and the spray arm divider. The program returns to the main menu.

If you wish to access the variant settings menu again: Activate the service menu, press Start (S2) three times within five seconds.

Water Hardness setting:

Activation of the setting menu:

- 1) Turn off the main switch
- 2) Wait for at least 5 seconds
- 3) Keep the Start button depressed (S2)
- 4) Turn on the main switch
- 5) Release the Start button (S2)
- 6) Select the desired water hardness with the Program button (S1)

- Water Hardness (°dH)

All LED's 0 – 5 Extinguished

L1 lit 6 – 8 L2 lit 9 – 14

L3 lit 15 – 19 L4 lit 20 – 29

L5 lit 30 – 44 L6 lit 45+

Confirm your choice by pressing Start (S1). The program returns to the main menu.

Child lock: (DFUD142 only)

Activation of setting menu:

1. Turn off the main switch
2. Wait for at least 5 seconds
3. Keep the Temperature and Drying selection buttons depressed (S4 & S6)
4. Turn on the main switch
5. Release the Temperature and Drying selection buttons (S4 & S6)
6. Select the status with the program button (S1).
L1 extinguished, key extinguished: Child lock deactivated.
L1 lit, key lit: Child lock activated.
7. Confirm your selection by pressing Start (S2)

The program returns to the main menu.

To unlock the child lock temporarily, the Temperature (S4) and Drying selection (S6) buttons must be pressed simultaneously. The machine can now be opened normally for three minutes.

Total reset:

To reset the machine to its basic settings.

1. Turn off the main switch
2. Wait for at least 5 seconds
3. Keep the Program button depressed (S1)
4. Turn on the main switch
5. Release the Program button (S1)

The machine now resets various settings, although not the water hardness and intake volume, and senses the presence of the turbidity and pressure sensors and the spray arm divider. The machine then reverts automatically to the main menu.

SERVICE MENU:

1. Turn off main switch
2. Wait for at least 5 seconds
3. Keep the Program and Start buttons depressed (S1 & S2)
4. Turn on the main switch
5. Release the Program and Start buttons (S1 & S2)

The most recent fault is indicated as L1-L6. Press the Program button and index through the following components.

1. Inlet valve
2. Detergent and detergent dispenser
3. Circulation pump
4. Heating element and circulation pump (Max 165° F)
5. Fan
6. Drain pump

Keep the Program button depressed for three seconds to adjust the water intake. Press the Program button and index through the following:

L1-L6 extinguished; Normal water intake volume.

L1 lit; Water intake volume is reduced by 10%.

L2 lit; Water intake volume is reduced by 5%.

L3 lit: Time-controlled water intake

L4 lit: Water intake volume is increased by 5%.

L5 lit: Water intake volume is increased by 10%.

L6 lit: Water intake volume is increased by 15%.

Confirm your choice by pressing Start (S2). The program returns to the main menu.

POOR DISHWASHING RESULTS

Try the following remedies. Poor results may not always be caused by the dishwasher. Read through the chart below before contacting your servicer.

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Spotting and filming	Hard water	<p>Use the maximum recommended amount (3 tablespoons of dishwasher detergent).</p> <ul style="list-style-type: none"> • Wash and rinse load as usual • Remove all metal items from dishwasher. • Do not add detergent. • Pour two cups of vinegar into a bowl and set it on the bottom rack of the dishwasher. • Run the dishes through an entire wash program. If the vinegar rinse doesn't work, repeat the above process substituting ¼ cup citric crystals (available at most drug stores) for the vinegar. <p>Wiping with a damp cloth should remove spots from metal items. For sterling silver and silver plated flatware, rub with a towel, or use a good cream silver polish.</p>
	Filter system	Check filter system to be sure it is clean and properly installed
	No rinse aid	Does the rinse aid dispenser need to be filled? (NOTE: Use only in hard water areas.)
	Too little water	Check that the water valve is fully opened. Make sure that the water pressure is between 18 and 176psi . Check the filter inlet valve.
	Dishwasher detergent	Use only the correct amount of dishwasher detergent according to the hardness of the water and the wash program you have selected. Do not use old or caked detergent. Store the detergent in a dry place and in a closed container.

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
	<p>Items not loaded properly</p> <p>Wash arms rotate poorly or standing still</p> <p>Strainer blocked</p> <p>Excess foam in the Machine</p> <p>Flatware incorrectly loaded</p>	<p>Change the dishwasher detergent if the results is still unsatisfactory</p> <p>Check that you loaded the items according to the instructions in the owners guide. Do not overload. Make sure water can reach all soiled surfaces.</p> <p>Check that both wash arms can rotate freely and that items do not obstruct the movement of the wash arms. Lift the arms and make sure that no grains of dirt, etc., retard the rotation of the wash arms. If necessary, clear the obstruction, refit the arms and check that they rotate freely.</p> <p>Make sure that the holes in the wash arms are not blocked be dirt. If necessary, clear the holes with a pointed object.</p> <p>Check the strainer. Clean if necessary.</p> <p>Use only dishwasher detergent.</p> <p>Pay particular attention to spoons so they do not nest in each other and prevent water penetration.</p>
Marks and discoloration	Aluminum utensils rubbing especially light weight foil	Be sure aluminum utensils, type pans, do not touch dishes. To remove spots, use a nonabrasive cleaner.
Small particles deposited on items	<p>Wash arm of arms not rotating freely</p> <p>Detergent</p>	<p>Be sure a utensil or handle has not prevented their turning.</p> <p>Use only fresh detergent, store in a Tightly closed container in a cool dry place. Fill dispenser only when ready to start the dishwasher. Use the recommended amount of detergent, especially with hard water.</p>

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
	<p>Low water pressure</p> <p>Improper loading of dishes</p>	<p>Check that the water valve is fully open. Make sure that the water pressure is between 18 and 176psi.</p> <p>Load dishes to prevent water and detergent from being trapped in or between items. Water should circulate freely.</p>
<p>Yellow or brown marks</p>	<p>Iron or manganese in water</p> <p>Copper with sterling silver</p> <p>Tea or coffee (tannic acid)</p>	<p>Temporary solution: Pour 1 teaspoon to 1 tablespoon of citric acid crystals in instead of the pre-wash detergent directly on the inside of the door. Follow this pre-wash with a full detergent wash. Use the pots/pans or normal wash cycle. Permanent solution: install an iron removal system in the water supply.</p> <p>Yellow film on sterling silver results when washing copper items in the same load. Silver polish usually removes the stain.</p> <p>Tea or coffee can stain cups. Remove stains by hand, using a solution of ½ cup bleach and 3 cups warm water. (Do not use on sterling silver or silverplate.)</p>
<p>Discoloration of stainless steel, silverplate or sterling silver</p>	<p>Allowing salty or acidic food to remain on flatware</p> <p>Stainless steel contacting silver.</p>	<p>Rinse flatware that is to stand several hours before washing.</p> <p>Do not put stainless steel and silver flatware in the same silverware basket compartment. Direct contact between these metals can cause permanent damage to silver. Clean stained items with silver polish. Do not use abrasives on stainless steel or silver.</p>

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Distortion of plastics	Plastic item has low heat tolerance	Plastics vary in their ability to tolerate heat. Check washing instructions for all plastic items to be sure they are dishwasher safe. If they are, place in upper rack away from the heating element.
Marks on melamine and plastics	Porous material	Use a special cleaner for plastic. DO NOT use bleach or scouring powder on these materials.
Detergent left in detergent compartment	Compartment cover blocked Old detergent	The cover may not be opening because of improperly loaded items. Move dishes that may be blocking it. If detergent is hard or caked in the box, throw away. Use only fresh detergent. Add detergent just before starting the dishwasher.
Cloudy film on glass-ware-etching of glass	Too much detergent, especially in soft water	If vinegar or citric acid rinse doesn't remove film, the cloudiness is "etching". This is permanent. To prevent etching, use the least amount (one teaspoon) of recommended dishwasher detergent if you have soft water. Use a good quality of dishwashing detergent and rinse aid. Do Not overload the machine. Water should circulate freely to assure adequate rinsing and draining. Use drying without heat.
Dishes not dry	Non-heat drying No rinse aid	Be sure to select heated drying for best results. Allow more drying time when using non-heat drying. Fill rinse aid dispenser. Rinse aid helps dishes to dry faster. NOTE: Use rinse aid with hard water only.

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
	<p>Plastic items.</p> <p>Improper loading or unloading</p> <p>Dry cycle interrupted</p>	<p>Certain plastic materials are difficult to dry. Plastics may need towel drying.</p> <p>Do not overload or nest items. Be sure all surfaces drain well. Load items with concave bases so as much water as possible can run off. Unload the lower rack first. Water from dishes in the upper rack may be spilling onto the lower rack.</p> <p>If the door is opened during the heated dry cycle, the heating element comes back on after the door is closed. If the dishwasher door is opened immediately after the dry cycle is completed and then shut again, the vent door is closed, trapping warm humid air. It is best then to leave door open slightly.</p>
Chipping or breaking of glassware	Improper loading	Do not overload. Load between prongs, not over them. Glasses loaded over prongs are not supported and may break. make sure glassware is secure. Always use upper rack for delicate items. Use the light/china cycle.
Unusual noise	Improper loading	Utensils may not be secure or may have dropped from the rack. Water may cause utensils to rattle. Make sure everything is securely placed in dishwasher.
Dishwasher will not Fill.	<p>Door open</p> <p>Controls</p> <p>Water feed line</p> <p>Water supply</p>	<p>Check that door is firmly closed.</p> <p>Check that dishwasher is on.</p> <p>Check to see that the water feed line is not crimped.</p> <p>Be sure water is available and turned on.</p>

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Dishwasher will not start.		Check service notes _____
Dishwasher will not drain		Check service notes. _____
Water backs up in sink when dishwasher drains.	Food waste disposer and trap.	Check disposer and trap at sink for blockage or food particles.
Water left in bottom near filters	dishwasher cycle not complete Some is normal.	Allow dishwasher to complete cycle Water left in removable coarse strainer is normal.

Display		Type of Fault	Action
	Flashes	Too much water In the dishwasher	Phone Service
	Flashes	Fault with water inlet	Check that the water tap is open.
	Flashes	Valve leakage	Shut off the water tap and Contact service
	Flashes	Blocked drain	See “Possible Causes” in Troubleshooting section.

To remove the fault indications from the display, turn off the main switch and then turn it back on again.

TROUBLESHOOTING:

If there are problems with poor washing results, you must observe the following rules in the first instance:

- Use a suitable program, such as Normal program 130° F / 140° F for normally soiled items.
- If more heavily soiled items are to be washed, e.g. saucepans or gratin dishes, select a stronger program, such as Heavy wash or intensive wash.
- It is important to use a suitable detergent, preferably one which has produced good results in tests.
- You should not buy a bulk pack, because detergent is a perishable product. The detergent dose must also conform to the recommendations on the pack. **Above all, avoid overdosing.**
- The spray arms must not be obstructed and they must rotate at the correct speed (12 – 25 rpm). Make sure that the machine takes in the correct quantity of water, see the user handbook.

MOST COMMON FAULTS:

If the dishwasher does not work, you should first check whether this may be due to a simple fault which the customer himself can correct. Identify the fault with the help of the following questions.

Machine will not start

- Are the fuses intact?
- Is the machine connected to the mains?
- Is the door properly closed?
- Is the water tap open?

If you have answered “YES” to the above questions, and if the machine appears to be without a power supply, you should first check that a power supply is present as far as the main switch and as far as the control unit.

If the machine indicates that something is wrong, e.g. “Open door” even though the door is closed, check the door switch.

If the machine indicates “Overfilling”, check the overfilling system (micro switches, hoses, etc).

Water remains in the machine

- Is there a blockage in the drain hose? Check the connection at the union with the building’s drains.
- Is there a kink in the drain hose?
- Are the filters blocked?
- Is the drain pump blocked?
- Is the gauge block on the left I the sump next to the drain pump incorrectly seated?

If you have answered “NO” to the above questions, first check that the drain pump has a power supply and that it is working. The pump must be replaced if it is faulty. If there is no power supply to the pump, check the output from the control unit. Replace the control unit if it is defective.

The dishwasher is not clean

- Are the spray arms able to move freely?
- Are the holes in the spray arms free from dirt?
- Is the detergent being dispensed correctly? Check that you are dispensing according to the hardness of the water.

- Is the fine filter securely attached?
- Are you using the correct wash program?
- Is the machine correctly loaded?

If you have answered “YES” to the above questions, you should check the following:

- That the machine has the correct quantity of water.
- That the spray arms are moving in the right direction and rotating at the correct speed (minimum 12 rpm).
- That the circulation pump is working as intended.
- That the spray arm divider is working as intended.
- That the machine empties the water properly (no residual water present before refilling).

Cloudiness or stains on washed items

- Is the rinse aid dispenser correctly set?
- Is the temperature correctly set?

If you have answered “YES” to the above questions, you should check the following;

- Spray arms
- Circulation pump
- Element
- Combined dispenser
- Spray arm divider

Does the machine stop at the beginning of the wash program?

- Is the water tap fully open?
- Is the filter at the screwed nipple of the supply hose clean?

If you have answered “YES” to the above questions, you should check the:

- Inlet valve
- Float
- Micro switch

FAULT CODES

In the fault codes below, “L” denotes LED and “F” denotes fault code on the display.

L1 / F1 Temperature stop fault

The temperature rise is less than 50° F in five minutes. The program exits from the heating stage and continues in the process. Indication only in the service menu.

CHECK:

- Element
- Thermister
- Water level
- Circulation pump
- Control unit
- Wiring

L2 / F2 Overfilling

Too much water in the machine (pressure sensor) or float activated. If the water has not been evacuated within 60 seconds, the program will be interrupted (drain pump activated).

CHECK:

- Drain pump
- Blockage in the hoses
- Flow sensor
- Inlet valve
- Leakage
- Wiring

L3 / F3 Thermister fault

Interruption or >176° F. The program exits from the heating stage and continues in the process. Indication only in the service menu.

CHECK:

- Thermister
- Control unit

L4 / F4 Water intake fault

<80 pulses within 60 seconds or correct number of pulses is not achieved with 255 seconds. Program interrupted.

CHECK:

- Water supply
- Flow sensor
- Inlet valve
- Wiring

L5 / F5 Valve leakage

>80 pulses detected when the inlet valve is deactivated. Certain models attempt to remedy the leak first. Any program in progress is interrupted (drain pump activated).

CHECK:

- Leakage through inlet valve
- Flow sensor

L6 / F6 Pressure sensor fault

Output signal > 4.8 V. The program continues. Indication only in the service menu.

CHECK:

- Pressure sensor
- Control unit
- Wiring

L1 + L2 / F7 Pumping out fault

Water not evacuated after 120 seconds pumping out. Program interrupted.

CHECK:

- Drain pump
- Hoses
- Installation of drain hose
- Control unit
- Wiring

L1 + L3 / F8 Blocked filter

The pressure sensor senses excessively low pressure during the final rinse. Indication after end of program.

CHECK:

- Filter
- Sump (pressure chamber)
- Pressure sensor.

L1 + L4 / F9 Circulation fault

The pressure sensor senses excessively low pressure (e.g. no water in the machine) or excessively high pressure (e.g. the circulation pump is defective). The program exits from the heating stage and continues in the process. Indication only in the service menu.

CHECK:

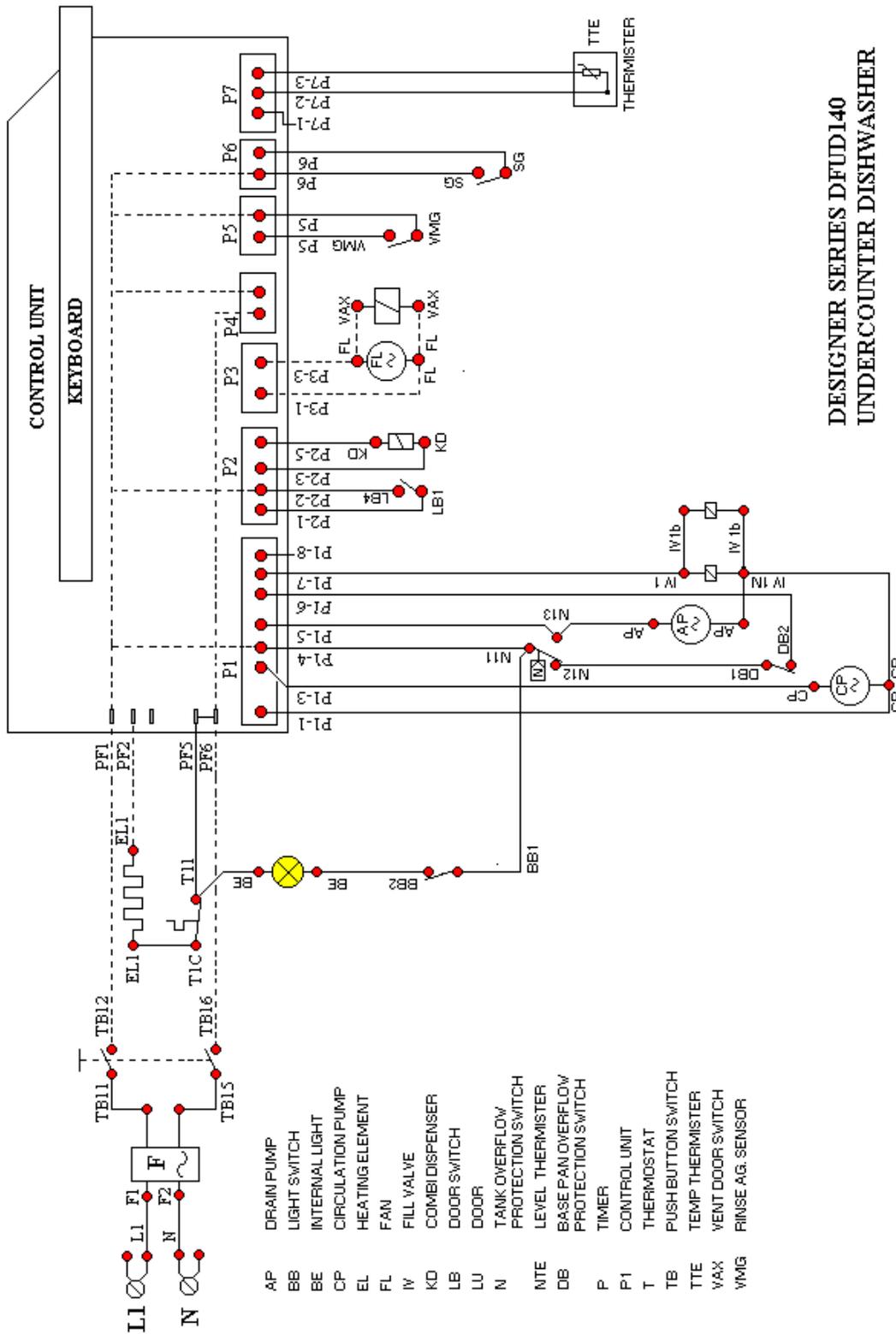
- Circulation pump
- Filter
- Water level
- Pressure chamber
- Pressure sensor

L1 + L6 / Fb Spray arm divider fault

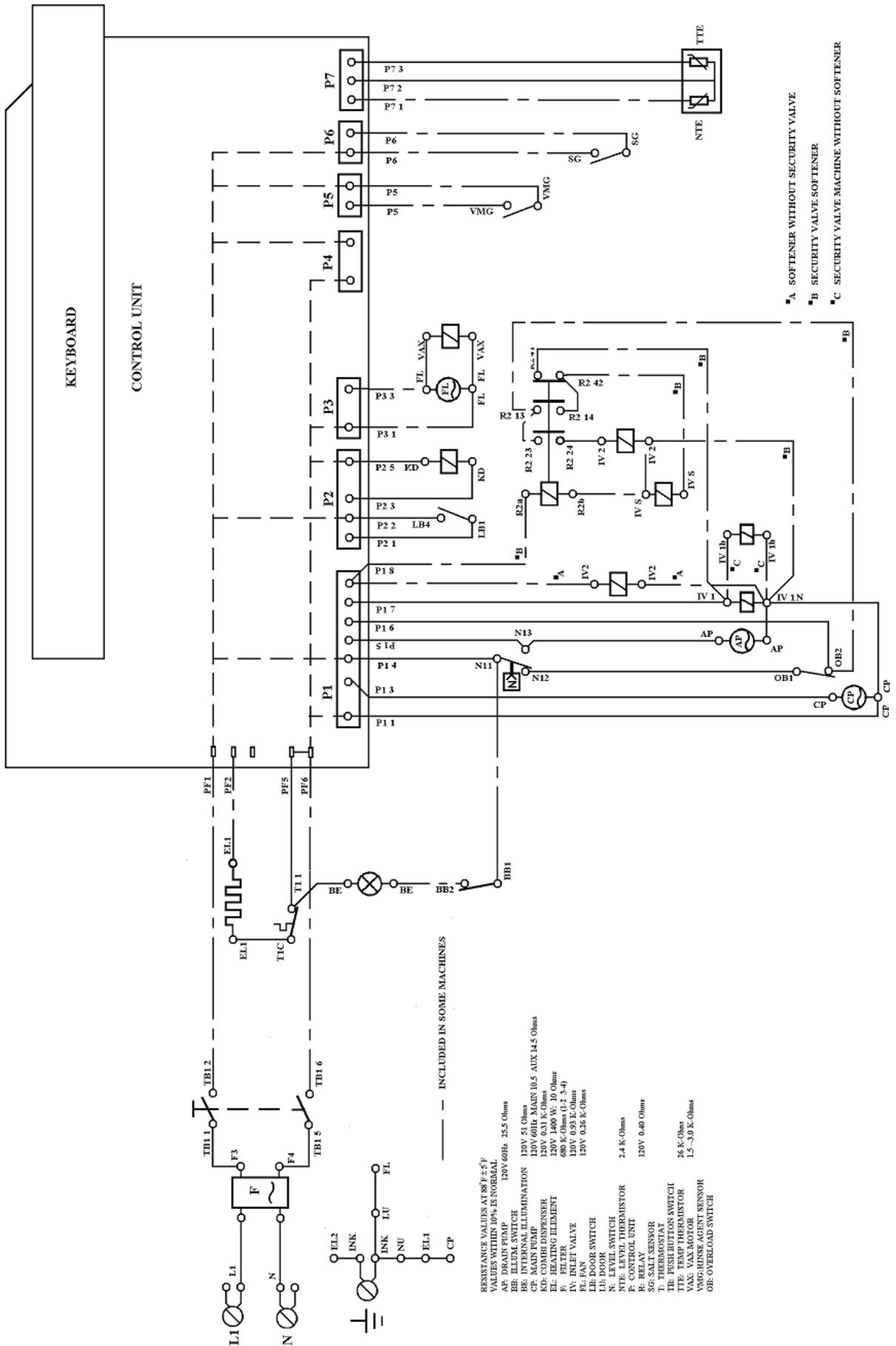
Position contact is continuously closed or open. The program proceeds. Indication only in service menu.

CHECK:

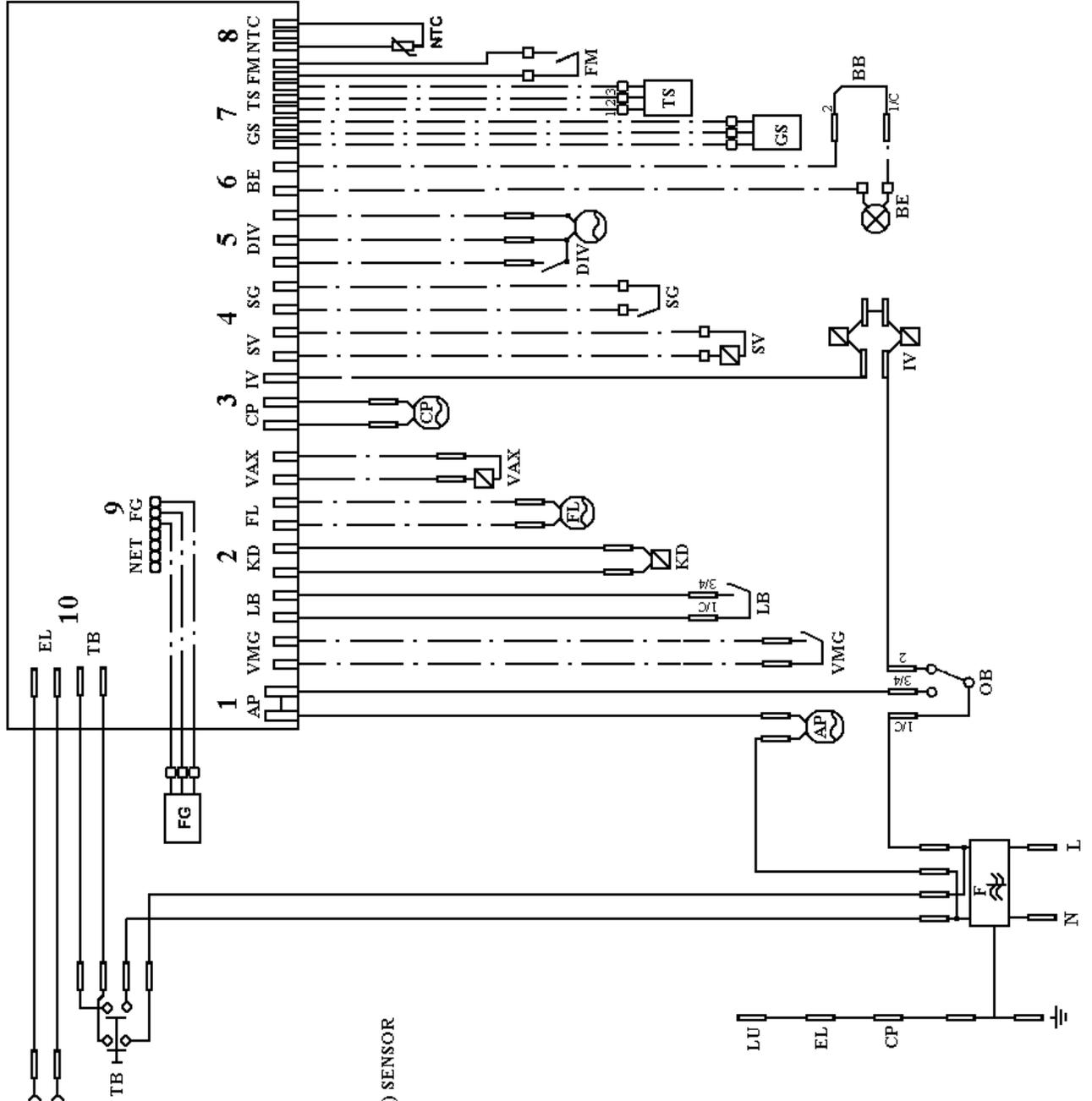
- Spray arm divider
- Function of gear box
- Contacts
- wiring



**DESIGNER SERIES DFUD140
 UNDERCOUNTER DISHWASHER**



WIRING DIAGRAM UNDERCOUNTER DISHWASHER



- AP: DRAIN PUMP
- BB: ILLUM. SWITCH
- BE: HALOGEN LAMP
- CP: CIRCULATION PUMP
- DIV: WATER DIVERTIER VALVE
- EL: HEATING ELEMENT
- F: FILTER
- FG: HUMIDITY SENSOR
- FL: FAN
- FM: FLOW METER
- GS: TURBIDITY (CLOUDY WATER) SENSOR
- IV: INLET VALVE
- KD: COMBINATION DISPENSER
- LB: DOOR SWITCH
- LU: DOOR
- NTC: THERMISTOR
- SG: SALT SENSOR
- SV: SALT VALVE
- TB: MAIN SWITCH
- TS: PRESSURE SENSOR
- VAX: VAX ACTUATOR
- VMG: RINSE AID SENSOR
- NET: INTERFACE TO HOME NET COMMUNICATIONS UNIT
- CB: FLOAT SWITCH

- WIRES IN ALL MACHINE
- - - INTERNAL CONNECTION
- . - WIRES IN SOME MACHIN

COMPONENTS AND MEASURED VALUES:

Indicated resistance values apply at room temperature
Values within $\pm 10\%$ are regarded as normal.

Radio interference suppression filter	680K ohm
Heating element 1400W 120V	12 ohm
Heating element 1200W 120V	10 ohm
Thermistor	25K ohm
Combined dispenser 120V	0.3K ohm
Circulation pump 120V	22 ohm
Drain pump 120V	25 ohm
Spray arm divider 120V 60 Hz	2.6K ohm
Inlet valve single include flow sensor 120V	0.95K ohm
Inlet valve safety include flow sensor 120V	0.5K ohm
Halogen lamp =5 W/12V	<10K ohm
Wax motor	1.1K ohm
Fan motor 120V	0.18K ohm

RESISTANCE VALUES AT $88^{\circ}\text{F} \pm 5^{\circ}\text{F}$
VALUES WITHIN 10% IS NORMAL

AP: DRAIN PUMP	120V 60Hz 25.5 Ohms
BB: ILLUM. SWITCH	
BE: INTERNAL ILLUMINATION	120V 51 Ohms
CP: MAIN PUMP	120V 60Hz MAIN 10.5 AUX 14.5 Ohms
KD: COMBI DISPENSER	120V 0.31 K-Ohms
EL: HEATING ELEMENT	120V 1400 W: 10 Ohms
F: FILTER	680 K-Ohms (1-2 3-4)
IV: INLET VALVE	120V 0.93 K-Ohms
FL: FAN	120V 0.26 K-Ohms
LB: DOOR SWITCH	
LU: DOOR	
N: LEVEL SWITCH	
NTE: LEVEL THERMISTOR	2.4 K-Ohms
P: CONTROL UNIT	
R: RELAY	120V 0.40 Ohms
T: THERMOSTAT	
TB: PUSH BUTTON SWITCH	
TTE: TEMP THERMISTOR	26 K-Ohms
VAX: VAX MOTOR	1.5 --3.0 K-Ohms
VMG:RINSE AGENT SENSOR	
OB: OVERLOAD SWITCH	