Washer-Extractors

X Control

Refer to Page 9 for Model Identification

Programming

Original Instructions
Keep These Instructions for Future Reference.
CAUTION: Read the instructions before using the machine.
(If this machine changes ownership, this manual must accompany machine.)

Alliance™ Laundry Systems

www.alliancelaundry.com

Part No. D1604ENR6
November 2018

Table of Contents

Safety Information

Important Safety Instructions

WARNING

Before operating a machine controlled by an electronic programmer, read this manual. Incorrect use can result in serious injuries or damage to the machine controls. Ignoring instructions can cause an incorrect machine function, which may result in injuries or machine and/or linen damages.

C001

- Before installation, operating and maintenance of the machine, read complete instructions thoroughly which means the following manuals: "Original Programming Manual" and "Original Installation, maintenance and user's manual". Follow these instructions and keep them handy for later use.
- A machine must be installed by following the "Original Installation, maintenance and user's manual". Before the first machine start, it must be initialized and tested by a qualified worker.
- The electric service line must not be affected by other electrical loading. A nominal voltage, if loaded or not must work in the range ±10% with a maximum permanent frequency deviation of 1% or a short-time one at 2% of a given frequency. Connecting or starting the machine at an incorrect voltage can damage the programmer.
- The machine must not be exposed to high humidity or extreme high and low temperatures.
- Do not tamper with the controls.
- **Instructions in this manual do not cover all dangerous situations. It is up to the user to handle the machine carefully.**
- The manufacturer has the right to change specifications in this manual without prior notice. All the stated information is only for informative purpose and must be considered as general. It is not possible to present all the specific data of the device.

NOTE: Every circuit board has a serial number and board code. The model and serial number of the machine, must be mentioned in all correspondence or inquiries addressed to the distributor or manufacturer.

NOTE: The programmer uses machine type codes to select different machines´ programmable machines executions. The model number on the machine doesn’t indicate the machine type directly. It must be linked with the description of the machine type letters.

Introduction

Model Identification

Information in this manual is applicable to these models:

AF105_X_CONTROL	LW9_X_CONTROL	PAH135X
AF135_X_CONTROL	LYC065X	PAH180X
AF180_X_CONTROL	LYC080X	PAH240X
AF240_X_CONTROL	LYC105X	PAH280X
AF280_X_CONTROL	LYC135X	PAH332X
AF65_X_CONTROL	LYC180X	PAH520X
AF80_X_CONTROL	LYC240X	PAX080X
AR105M_X_CONTROL	LYC280X	PAX105X
AR105N_X_CONTROL	LYE065X	PAX135X
AR135M_X_CONTROL	LYE080X	PAX180X
AR135N_X_CONTROL	LYE105X	PAX240X
AR180M_X_CONTROL	LYE135X	PAX280X
AR180N_X_CONTROL	LYE180X	PAX332X
AR240M_X_CONTROL	LYE240X	PAX520X
AR240N_X_CONTROL	LYE280X	PAY080X
AR280M_X_CONTROL	LYH065X	PAY105X
AR280N_X_CONTROL	LYH080X	PAY135X
AR350_X_CONTROL	LYH105X	PAY180X
AR520_X_CONTROL	LYH135X	PAY240X
AR80M_X_CONTROL	LYH180X	PAY280X
AR80N_X_CONTROL	LYH240X	PAY332X
FX105_X_CONTROL	LYH280X	PAY520X
FX135_X_CONTROL	LYU065X	PYC065X
FX180_X_CONTROL	LYU080X	PYC080X
FX240_X_CONTROL	LYU105X	PYC105X
FX280_X_CONTROL	LYU135X	PYC135X
FX65_X_CONTROL	LYU180X	PYC180X
FX80_X_CONTROL	LYU240X	PYC240X
HX105_X_CONTROL	LYU280X	PYC280X
HX135_X_CONTROL	LYX065X	PYE065X

Table continues...

HX180_X_CONTROL	LYX080X	PYE080X
HX240_X_CONTROL	LYX105X	PYE105X
HX280_X_CONTROL	LYX135X	PYE135X
HX65_X_CONTROL	LYX180X	PYE180X
HX80_X_CONTROL	LYX240X	PYE240X
LAC080X	LYX280X	PYE280X
LAC105X	LYY065X	PYH065X
LAC135X	LYY080X	PYH080X
LAC180X	LYY105X	PYH105X
LAC240X	LYY135X	PYH135X
LAC280X	LYY180X	PYH180X
LAC332X	LYY240X	PYH240X
LAC520X	LYY280X	PYH280X
LAE080X	MWCX120_X_CONTROL	PYU065X
LAE105X	MWCX20_X_CONTROL	PYU080X
LAE135X	MWCX25_X_CONTROL	PYU105X
LAE180X	MWCX30_X_CONTROL	PYU135X
LAE240X	MWCX40_X_CONTROL	PYU180X
LAE280X	MWCX40M_X_CONTROL	PYU240X
LAH080X	MWCX40N_X_CONTROL	PYU280X
LAH105X	MWCX55_X_CONTROL	PYX065X
LAH135X	MWCX65_X_CONTROL	PYX080X
LAH180X	MWCX80_X_CONTROL	PYX105X
LAH240X	MWFX20_X_CONTROL	PYX135X
LAH280X	MWFX25_X_CONTROL	PYX180X
LAH332X	MWFX30_X_CONTROL	PYX240X
LAH520X	MWFX40_X_CONTROL	PYX280X
LAU080X	MWFX55_X_CONTROL	PYY065X
LAU105X	MWFX65_X_CONTROL	PYY080X
LAU135X	NX105_X_CONTROL	PYY105X
LAU180X	NX105M_X_CONTROL	PYY135X
LAU240X	NX135_X_CONTROL	PYY180X
LAU280X	NX135M_X_CONTROL	PYY240X
LAU332X	NX180_X_CONTROL	PYY280X

Table continues...

LAU520X	NX180M_X_CONTROL	RX105M_X_CONTROL
LAX080X	NX240_X_CONTROL	RX105N_X_CONTROL
LAX105X	NX240M_X_CONTROL	RX135M_X_CONTROL
LAX135X	NX280_X_CONTROL	RX135N_X_CONTROL
LAX180X	NX280M_X_CONTROL	RX180M_X_CONTROL
LAX240X	NX80_X_CONTROL	RX180N_X_CONTROL
LAX280X	NX80M_X_CONTROL	RX240M_X_CONTROL
LAX332X	PAC080X	RX240N_X_CONTROL
LAX520X	PAC105X	RX280M_X_CONTROL
LAY080X	PAC135X	RX280N_X_CONTROL
LAY105X	PAC180X	RX350_X_CONTROL
LAY135X	PAC240X	RX520_X_CONTROL
LAY180X	PAC280X	RX80M_X_CONTROL
LAY240X	PAC332X	RX80N_X_CONTROL
LAY280X	PAC520X	SW12_X_CONTROL
LAY332X	PAE080X	SW15
LAY520X	PAE105X	SW20
LW9_X_CONTROL	PAE135X	SW27
LW12_X_CONTROL	PAE180X	SW32
LW15_X_CONTROL	PAE240X	SW7_X_CONTROL
LW20_X_CONTROL	PAE280X	SW9_X_CONTROL
LW27_X_CONTROL	PAH080X	W2106VRVS
LW32_X_CONTROL	PAH105X	W2108VRVS
FX105_BUPA_X_CONTROL	PAU240X	PAU520X
FX135_BUPA_X_CONTROL	PAU280X	RX105_BUPA_X_CONTROL
FX80_BUPA_X_CONTROL	PAU332X	RX135_BUPA_X_CONTROL

Machine Type in Configuration Menu

Machine Type in Configuration Menu		
Dry Load Capacity	**Machine Type**	
Freestanding, High Spin Washer Extractors		
6.5 kg / 14 lb / 65 L	FX65	AF65
7.5 kg / 20 lb / 80 L	FX80	AF80

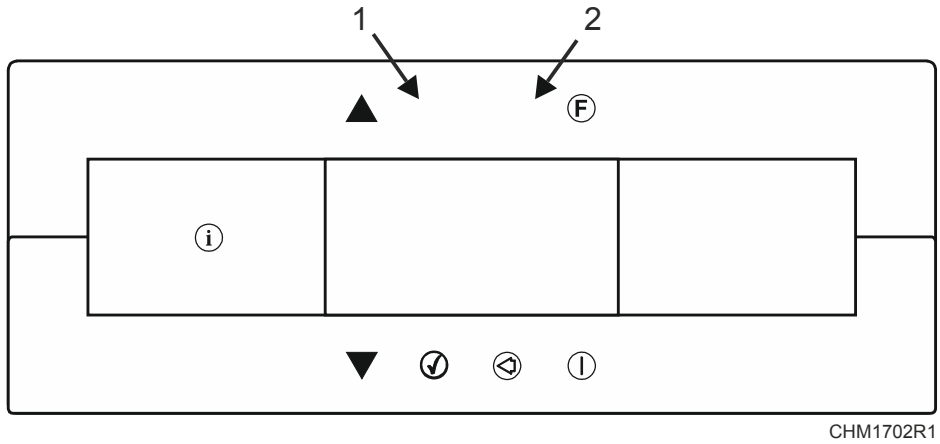
Table continues...

Machine Type in Configuration Menu		
Dry Load Capacity	**Machine Type**	
10.5 kg / 25 lb / 105 L	FX105	AF105
13.5 kg / 30 lb / 135 L	FX135	AF135
18 kg / 40 lb / 180 L	FX180	AF180
24 kg / 55 lb / 240 L	FX240	AF240
28 kg / 70 lb / 280 L	FX280	AF280
Cabinet Hardmount Washer Extractors		
7.5 kg / 20 lb / 80 L (100 G)	RX80N	AR80N
7.5 kg / 20 lb / 80 L (200 G)	RX80N	AR80M
10.5 kg / 25 lb / 105 L (100 G)	RX105N	AR105N
10.5 kg / 25 lb / 105 L (200 G)	RX105M	AR105M
13.5 kg / 30 lb / 135 L (100 G)	RX135N	AR135N
13.5 kg / 30 lb / 135 L (200 G)	RX135M	AR135M
18 kg / 40 lb / 180 L (100 G)	RX180N	AR180N
18 kg / 40 lb / 180 L (200 G)	RX180M	AR180M
24 kg / 55 lb / 240 L (100 G)	RX240N	AR240N
24 kg / 55 lb / 240 L (200 G)	RX240M	AR240M
28 kg / 70 lb / 280 L (100 G)	RX280N	AR280N
28 kg / 70 lb / 280 L (200 G)	RX280M	AR280M
35 kg / 80 lb / 332 L (100 G)	RX350N	AR350N
35 kg / 80 lb / 332 L (150 G)	RX350M	AR350N
52 kg / 120 lb / 520 L	RX520	AR520

Control Identification

Symbols Used

Buttons



1. Hidden navigation button LEFT
2. Hidden navigation button RIGHT

Figure 1

Decal	
CHM1612R	**START** (**ADVANCE** function for the OPL version)
CHM1614R	**CONFIRM THE SELECTION (ENTER)**
CHM1615R	**CANCEL THE SELECTION**
CHM1616R	**MOVE UP**
CHM1617R	**MOVE DOWN**
CHM1683R	**SELECTION OF ADDITIONAL FUNCTIONS**
CHM1620R	**INFORMATION** OPL Version: Displays program information. Coin-Operated Version: Displays operation instructions.

Table 1

Main Menu

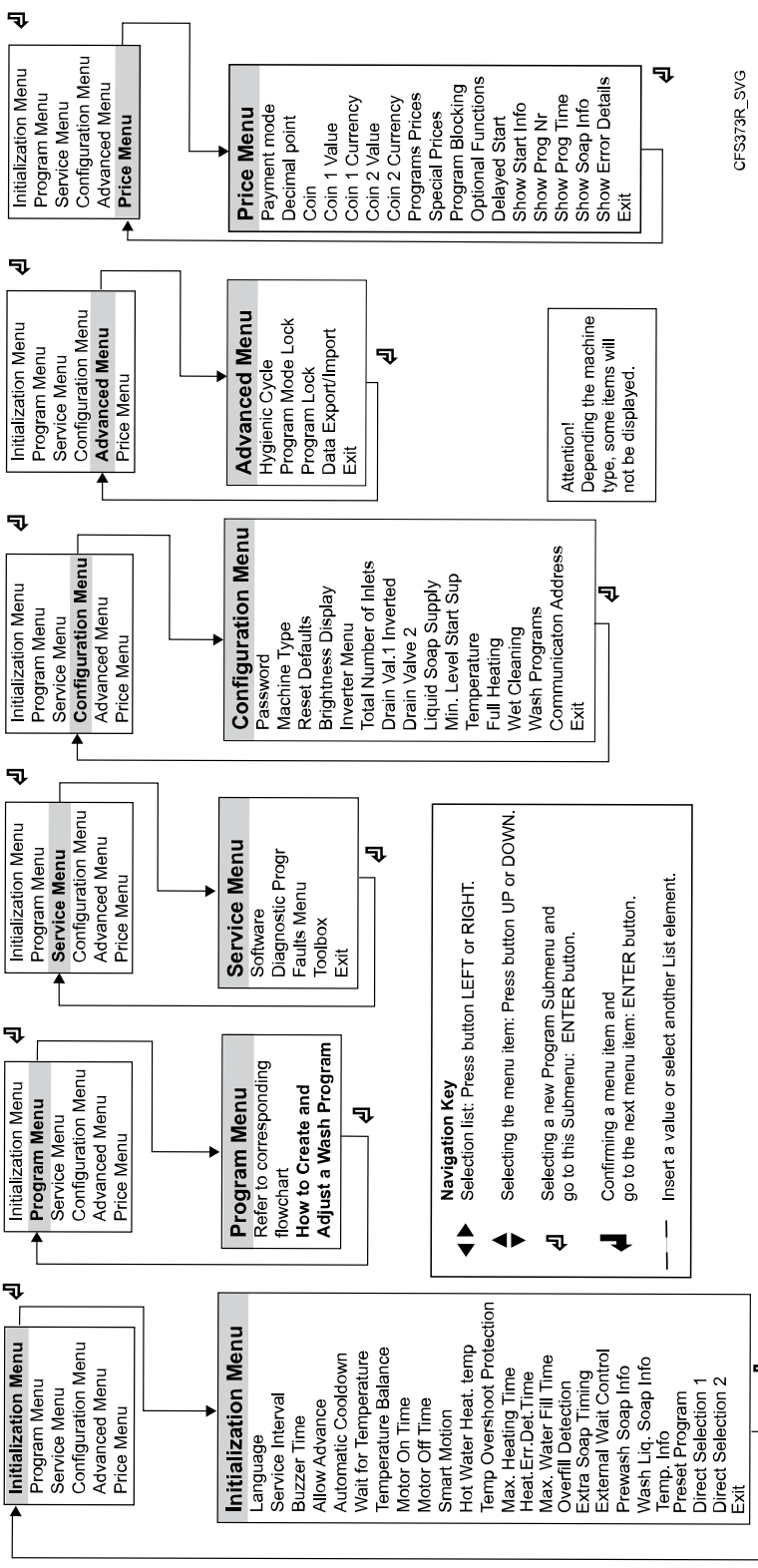


Figure 2

Basic Description of Controls

General

The Control Offers:

- 15 pre-programmed programs.
- Control of signal voltages for external pumps or liquid supply dispensers.
- Redistribution of the garments to avoid imbalance.
- Automatic temperature balance during the water fill process.
- Setting the machine options and configuration.
- Multiple languages can be selected (one at a time).

In Operation the Following Data is Displayed:

- The selected program.
- The active wash step.
- The remaining program time.
- Wash cycle progression bar.
- Indication of wait for heat (if selected).
- Diagnostic messages.

The Operation Menu:

- A program can be manually Shortened, Extended, Stopped.
- A pause can be programmed.
- A direct operation of selected components (water valves, etc.).
- Program overview.
- Service information.

The Hardware and Software of the Wash Computer:

- Easy operation by a comprehensive keypad.
- The hardware contains 2 electronic boards.
- The wash computer with graphic LCD display.
- The control software of the washing machine is stored in the internal memory of the wash computer and it can be easily adjusted (USB flash drive).
- The Wash Programs are kept in EEPROM memory (non-volatile memory).
- Direct control of liquid-detergent pumps.

Specific

The PROGRAM Menu is Designated for:

- The creation of a specific name for a wash program.
- The creation and implementation of a new wash program step by step.
- Editing a wash program step by step.
- Inserting and deleting steps in the wash program.
- Copying a wash program.
- Deleting a wash program.
- Inspecting the wash program by the view function.

The CONFIGURATION Menu is Designated for:

- The selection of the machine type.
- Loading the default factory settings for the CONFIGURATION and INITIALIZATION menu.
- The selection of the Brightness of the display.
- The selection of the power supply voltage of the washing machine.
- Loading the frequency inverter parameters.
- Erasing all the programmed wash programs (reset Wash program EEPROM memory).
- Loading the standard wash programs.
- The selection of the number of wash machine water supply inlets.
- The selection of a second drain valve (water recycling system).
- Enablization of external liquid pumps (if applicable).
- The selection if the temperature must be displayed in degrees Celsius or degrees Fahrenheit.
- The selection Full Heating.
- The selection of Wet Cleaning (very low programmable water levels).
- The selection of the minimum level start supplies.

The INITIALIZATION Menu is Designated for:

- The selection of the displayed Language.
- Programming the Service due value.
- The selection of the Buzzer time interval.
- The selection of the Advance function.
- The selection of the Wait for temperature function.
- The selection of the Manual override function.
- The selection of the Temperature balance function.
- Programming the Default Motor On and Off times for reversing wash action.
- The selection of the Automatic Cooldown function.
- Programming the Boiler temperature (hot water supply).
- Programming the Temperature Overshoot Protection value.
- Programming the Maximum Heating time value.
- Programming the Maximum Fill time value.
- Programming the Maximum Level overfill value.

The SERVICE Menu is Designated for:

- The inspection of the error messages log register and the list with statistics.
- Activating the power of the frequency inverter.
- The inspection of the functionality of the electric input signals.
- Resetting the Cycle counter.

The ADVANCED Menu is Designated for:

- Special optional applications.

The PAYMENT Menu is Designated for:

- Selection of the payment mode.
- Setting the value of coins and currency.
- Setting the prices of programs (including special prices).
- Disabling (blocking) of programs.
- Optional functions.
- Type of displaying the program information.

Entering and Changing Values Utilizing the Control Keypad

Entering a Numeric Value

1. Use the hidden navigation buttons LEFT and RIGHT and choose the position which you want to enter (change).
2. Use the FUNCTION SELECTION button and enter the required value.
3. Use the CONFIRM SELECTION button to confirm the entered value.

EXAMPLE: How to Enter the Number "321":

1. Use the RIGHT button to move the cursor into the position of the digit for single units.
2. Use the FUNCTION SELECTION button and set the digit to "1".
3. Use the LEFT button to move the cursor into the position of the digit for tens.
4. Use the FUNCTION SELECTION button and set the digit to "2".
5. Use the LEFT button to move the cursor into the position of the digit for hundreds.
6. Use the FUNCTION SELECTION button and set the digit to "3".
7. Use the CONFIRM SELECTION button to finish the process of entering the value.

Entering a Logical Value and Selection From a List

1. Use the hidden navigation buttons LEFT and RIGHT to enter (change) a logical value or to select an item from a list.
2. Use the CONFIRM SELECTION button to confirm the entered value.

How to Get into the Setup Mode

1. Press the buttons LEFT and FUNCTION SELECTION at the same time.
2. Release the LEFT button and then, after one second, release the FUNCTION SELECTION button.
3. The display shows Service Info.

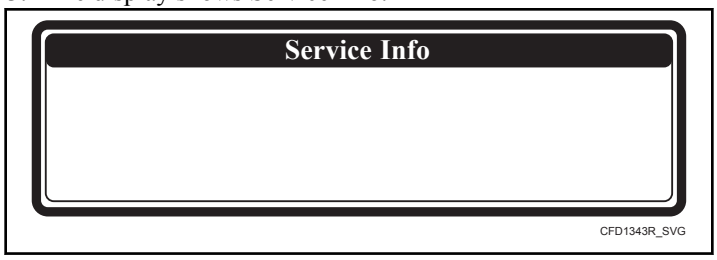


Figure 3

4. Press the buttons LEFT and RIGHT at the same time.
5. The display shows the main menu. If the password has been activated, you will have to enter the correct password first.

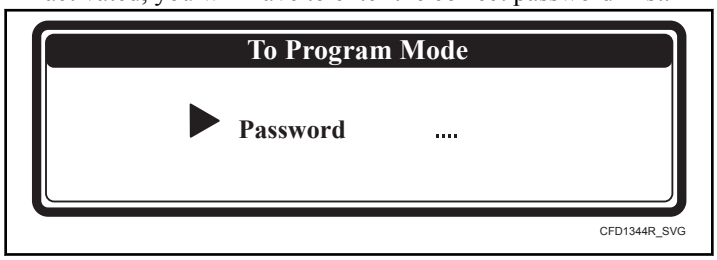


Figure 4

How to Leave a Setup Mode

When the "Main Menu" screen is shown.

1. Press the INFORMATION button on the keypad.
2. Then you will return to “Run Mode“ and the program overview is shown.

15 Wash Programs - 99 Steps

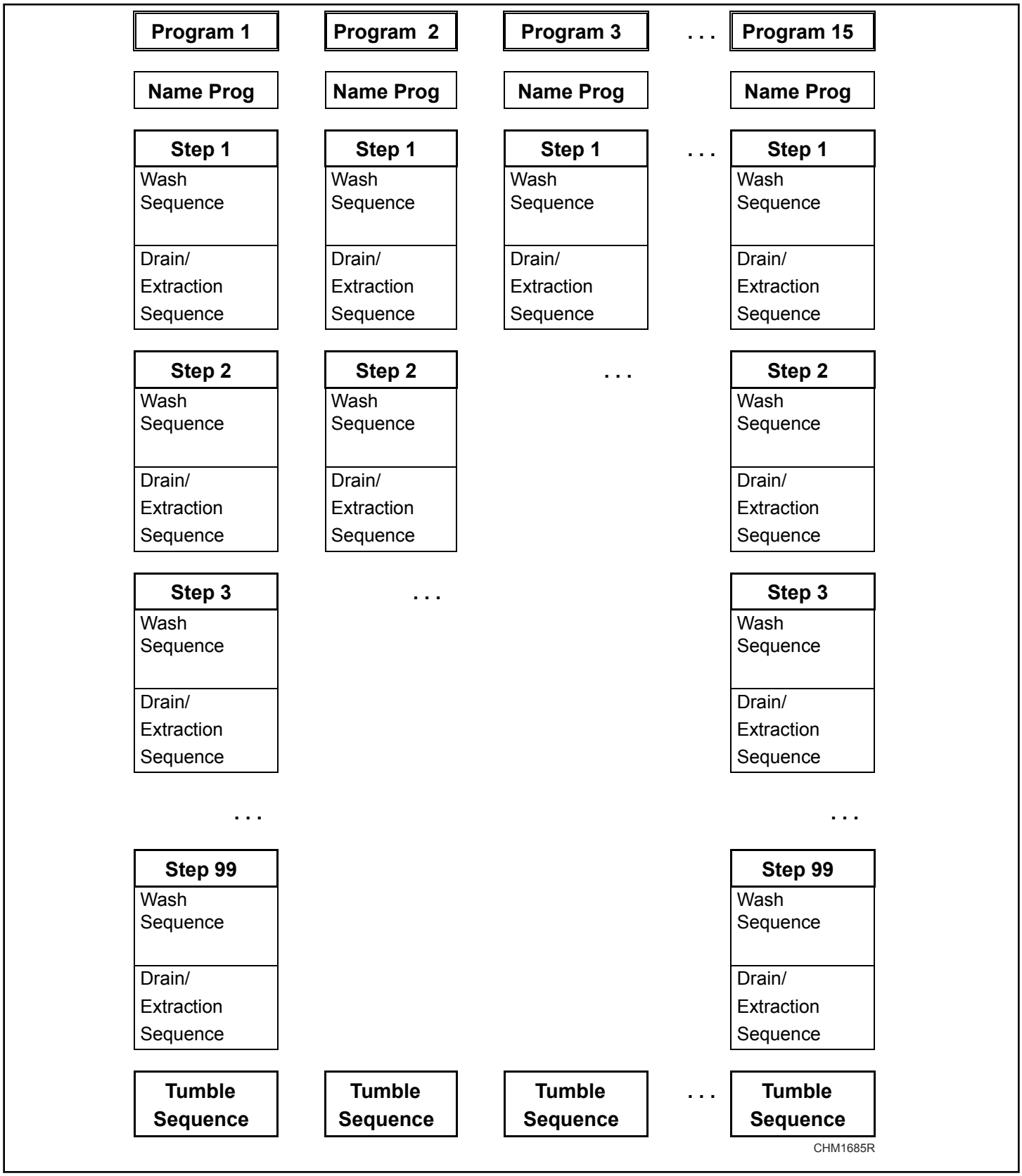


Figure 5

Available Wash Sequences

Available Wash Sequences: Prewash, Wash, Cooldown, Rinse, Final Rinse, Soak, Spray, No Wash.

Available drain/extraction sequences: Drain, Extract, No drain, Static drain, Rev drain.

The Creation of a Wash Program

- **A Wash Program is created step by step.**
- **Each step always consists of a Wash sequence and a Drain/Extraction sequence.**

Programming the Wash Sequence

First choose the type of Wash sequence.

- PREWASH
- WASH
- COOLDOWN
- RINSE
- FINAL RINSE
- SOAK
- SPRAY
- No WASH

Then program all the related functions of the sequence.

Available functions

- Temperature
- Water Level
- Water Inlet Valves
- The Wash Speed
- The Reversing Interval times
- Supplies
- Sequence Time (length of step)
- Drain valve 1 - 2
- Pause Signal

Each step is pre-loaded with default settings. When creating a program, you can choose to utilize these suggested settings.

Programming the Drain Sequence

After programming the Wash sequence, next program the Drain/Extraction sequence.

- DRAIN
- EXTRACTION
- No DRAIN
- STATIC DRAIN
- REVERSING DRAIN

Then program all the related functions of the Drain/Extraction sequence.

Available functions

- Sequence Time (length of step)
- Speed
- Drain valve 1 - 2

You can skip a sequence between two by programming No WASH or No Drain.

Example : The No drain sequence should be programmed between a wash and a cooldown sequence.

NOTE: A more detailed explanation for the specific sequences can be found in Chapter *Step 4: Programming the Wash Part* , *Step 5: Programming the Drain Step*.

The Tumble Sequence

- The wash cycle will always end with the Tumble sequence.
- The tumble sequence takes 30 Seconds, then the program is finished and the door can be opened.
- **The Tumble sequence cannot be skipped.**

Programming the Functions

Limits

- To ensure the correct functionality of the washing machine you have to program values within certain limits.
- If you program a value that falls below the minimal or above the maximal programmable limit then the new value will not be accepted and the previous value stays valid.

Programming the Water Temperature

Limits

- Minimum value : 33.8°F [1°C]
- Maximum value : 113°F [45°C] for the PREWASH and SOAK and 197.6°F [92°C] for the WASH sequence.
- For RINSE, FINAL RINSE and SPRAY no Temperature can be programmed.

Programming the Water Inlets Valves

- Depending on the programmed temperature the water inlet valves are suggested.
- While the tub is filling with water, the computer controls the water temperature. By switching on and off the hot and cold water inlet valves the correct water temperature is obtained.
- For machines with a Top Soap Dispenser you have to consider that by programming the water inlet valves, at the same time, you are also selecting the soap Box at which the soap must be added.
- If you want to program a wash sequence with :
  - Cold Water : only Cold Inlet Valves must be programmed
  - Warm or Hot water : Cold and Hot Inlet Valves must be programmed

Top Soap Dispenser Machines

The Cold Water Inlet Valves

- Inlet Valve 1 corresponds with soap box for a Prewash.
- Inlet Valve 2 corresponds with soap box for a Wash - detergent.
- Inlet Valve 3 corresponds with soap box for a Wash - liquid soap.
- Inlet Valve 4 corresponds with soap box for a Final Rinse.
- Inlet Valve 7 is a direct Inlet Valve and speeds up the water fill process.

The Hot Water Inlet Valves

- Inlet Valve 5 corresponds with soap box for a Prewash.
- Inlet Valve 6 corresponds with soap box for a Wash - detergent.
- Inlet Valve 8 corresponds with soap box for a Wash - liquid soap.

How to Select Inlet Valves: EXAMPLE		
For a Prewash:	Programmable temperature:	33.8 - 113°F [1 - 45°C]
	Inlet Valve 1 (cold) and/or 5 (hot)	soap box for a Prewash
	and/or 7 (cold)	direct Inlets
For a Wash:	Programmable temperature:	33.8 - 197.6°F [1 - 92°C]
	Inlet Valve 2 (cold) and/or 6 (hot)	soap box for a Wash - detergent
	and/or 7 (cold)	direct Inlets
For a Rinse:	Inlet valves 1+2+7 (cold)	No detergent is added
For a Final Rinse:	Inlet valve 4	soap box for a Final rinse
	and/or 7 (cold)	direct inlets

Table 2

WARNING

For machines with liquid supply pumps, direct water inlet valve 7 must be programmed because the liquid is added at the direct water inlet channel. For washing machines with water recycling, the water recycling supply must be connected to inlet valve 5 or 7.

C015

Programming the Water Inlet Valves for Cabinet Hardmount 52 kg / 120 lb / 520 L Machine

The Cold Water Inlet Valves

- Inlet Valve 1 is a direct Inlet Valve and speeds up the water fill process.
- Inlet Valve 2 is a direct Inlet Valve and speeds up the water fill process.
- Inlet Valve 4 corresponds with soap box for a Prewash.
- Inlet Valve 5 corresponds with soap box for a Wash - detergent.
- Inlet Valve 6 corresponds with soap box for a Wash - liquid soap.
- Inlet Valve 7 corresponds with soap box for a Final Rinse.

The Hot Water Inlet Valves

- Inlet Valve 3 is a direct Inlet Valve and speeds up the water fill process.
- Inlet Valve 8 corresponds with soap box for a Prewash.

Programming the Water Level

Water Level Limits

- Refer to *Table 5* . The values are different for each machine type.
- Minimum value: above the heating elements and the temperature sensor.
- Maximum value: half the wash drum.

Normal Low Level, Normal High Level

- The Normal Low Level is recommended for the PREWASH, WASH and SOAK sequences.
- The Normal High Level is recommended for the RINSE and FINAL RINSE Sequences.
- At the COOLDOWN sequence, the Wash Computer makes use of a low water level and is draining the water automatically.
- At the Spray sequence, the Drain valve stays open.

Wet Cleaning Selection Configuration Menu

- It's possible to program a level below default minimum programmable level. Refer to *Table 5* .
- The heating will not be functional for a water level below the standard minimum programmable water level.

NOTE: For woolens and other delicate linen a normal high water level is recommended. The economic function should only be used for lightly soiled and/or smaller volumes of laundry. In other cases, the program will give poor washing quality.

Cabinet Freestanding 6.5-28 kg / 14-70 lb / 65-280 L

Water Volume per Water Level - With No Load - Cabinet Freestanding Models							
Water Level	Machine Capacity						
	6.5 kg / 14 lb / 65 L	7.5 kg / 20 lb / 80 L	10.5 kg / 25 lb / 105 L	13.5 kg / 30 lb / 135 L	18 kg / 40 lb / 180 L	24 kg / 55 lb / 240 L	28 kg / 70 lb / 280 L
7	-	-	-	-	2.11 gal [8 l]	3.83 gal [14.5 l]	2.93 gal [11.1 l]
8	-	-	-	-	2.64 gal [10 l]	4.62 gal [17.5 l]	3.72 gal [14.1 l]
9	2.51 gal [9.5 l]	2.77 gal [10.5 l]	2.77 gal [10.5 l]	3.17 gal [12 l]	3.30 gal [12.5 l]	5.55 gal [21 l]	4.54 gal [17.2 l]
10	2.91 gal [11 l]	3.17 gal [12 l]	3.17 gal [12 l]	3.83 gal [14.5 l]	3.83 gal [14.5 l]	6.34 gal [24 l]	5.57 gal [21.1 l]
11	(1) 3.43 gal [13 l]	3.57 gal [13.5 l]	3.70 gal [14 l]	4.36 gal [16.5 l]	4.49 gal [17 l]	7.40 gal [28 l]	6.46 gal [24.4 l]
12	(2) 3.83 gal [14.5 l]	(1) 4.09 gal [15.5 l]	(1) 4.23 gal [16 l]	5.02 gal [19 l]	5.15 gal [19.5 l]	8.32 gal [31.5 l]	7.50 gal [28.4 l]
13	(3) 4.23 gal [16 l]	(2) 4.49 gal [17 l]	(2) 4.76 gal [18 l]	(1) 5.68 gal [21.5 l]	5.81 gal [22 l]	8.85 gal [33.5 l]	8.53 gal [32.3 l]
14	(4) 4.76 gal [18 l]	(3) 5.02 gal [19 l]	(3) 5.28 gal [20 l]	(2) 6.34 gal [24 l]	6.60 gal [25 l]	9.77 gal [37 l]	9.64 gal [36.5 l]
15	5.15 gal [19.5 l]	(4) 5.55 gal [21 l]	(4) 5.81 gal [22 l]	(3) 7.13 gal [27 l]	7.40 gal [28 l]	10.83 gal [41 l]	10.83 gal [41 l]
16	5.68 gal [21.5 l]	6.08 gal [23 l]	6.47 gal [24.5 l]	(4) 7.79 gal [29.5 l]	(1) 8.32 gal [31.5 l]	(1) 11.89 gal [45 l]	(1) 11.83 gal [44.8 l]
17	6.21 gal [23.5 l]	6.74 gal [25.5 l]	7.13 gal [27 l]	8.59 gal [32.5 l]	(2) 9.11 gal [34.5 l]	(2) 12.81 gal [48.5 l]	(2) 13.18 gal [49.9 l]
18	6.74 gal [25.5 l]	7.26 gal [27.5 l]	7.79 gal [29.5 l]	9.51 gal [36 l]	(3) 10.04 gal [38 l]	(3) 13.74 gal [52 l]	(3) 14.50 gal [54.9 l]
19	7.26 gal [27.5 l]	7.79 gal [29.5 l]	8.45 gal [32 l]	10.30 gal [39 l]	(4) 10.83 gal [41 l]	(4) 14.40 gal [54.5 l]	(4) 15.80 gal [59.8 l]
20	7.66 gal [29 l]	8.32 gal [31.5 l]	8.98 gal [34 l]	11.23 gal [42.5 l]	11.76 gal [44.5 l]	15.72 gal [59.5 l]	17.14 gal [64.9 l]
21	8.19 gal [31 l]	8.85 gal [33.5 l]	9.77 gal [37 l]	12.02 gal [45.5 l]	12.68 gal [48 l]	16.91 gal [64 l]	18.33 gal [69.4 l]
22	8.85 gal [33.5 l]	9.51 gal [36 l]	10.43 gal [39.5 l]	12.81 gal [48.5 l]	13.60 gal [51.5 l]	18.10 gal [68.5 l]	19.65 gal [74.4 l]

Table 3 *continues...*

Water Volume per Water Level - With No Load - Cabinet Freestanding Models							
	Machine Capacity						
Water Level	6.5 kg / 14 lb / 65 L	7.5 kg / 20 lb / 80 L	10.5 kg / 25 lb / 105 L	13.5 kg / 30 lb / 135 L	18 kg / 40 lb / 180 L	24 kg / 55 lb / 240 L	28 kg / 70 lb / 280 L
23	9.51 gal [36 l]	10.17 gal [38.5 l]	11.10 gal [42 l]	13.74 gal [52 l]	14.53 gal [55 l]	19.28 gal [73 l]	21.13 gal [80 l]
24	10.17 gal [38.5 l]	10.7 gal [40.5 l]	11.89 gal [45 l]	14.53 gal [55 l]	15.45 gal [58.5 l]	20.47 gal [77.5 l]	22.48 gal [85.1 l]
25	10.70 gal [40.5 l]	11.36 gal [43 l]	12.68 gal [48 l]	15.45 gal [58.5 l]	16.51 gal [62.5 l]	21.93 gal [83 l]	23.78 gal [90 l]
26	11.36 gal [43 l]	12.15 gal [46 l]	13.47 gal [51 l]	16.38 gal [62 l]	17.44 gal [66 l]	22.85 gal [86.5 l]	25.20 gal [95.4 l]
27	12.15 gal [46 l]	12.94 gal [49 l]	14.27 gal [54 l]	17.17 gal [65 l]	18.36 gal [69.5 l]	24.04 gal [91 l]	26.60 gal [100.7 l]
28	12.94 gal [49 l]	13.74 gal [52 l]	15.06 gal [57 l]	18.10 gal [68.5 l]	19.28 gal [73 l]	25.23 gal [95.5 l]	27.71 gal [104.9 l]
29	13.74 gal [52 l]	14.53 gal [55 l]	15.98 gal [60.5 l]	18.89 gal [71.5 l]	20.21 gal [76.5 l]	26.55 gal [100.5 l]	29.09 gal [110.1 l]
30	-	-	16.77 gal [63.5 l]	19.81 gal [75 l]	21.13 gal [80 l]	27.74 gal [105 l]	30.56 gal [115.7 l]
(1) Economic Low Level							
(2) Economic High Level							
(3) Normal Low Level							
(4) Normal High Level							

Table 3

Cabinet Hardmount 7.5-52 kg / 20-120 lb / 80-520 L

Water Volume per Water Level - With No Load – Cabinet Hardmount Models								
	Machine Capacity							
Water Level	7.5 kg / 20 lb / 80 L	10.5 kg / 25 lb / 105 L	13.5 kg / 30 lb / 135 L	18 kg / 40 lb / 180 L	24 kg / 55 lb / 240 L	28 kg / 70 lb / 280 L	35 kg / 80 lb / 332 L	52 kg / 120 lb / 520 L
7	-	-	-	2 gal [7.6 l]	2.40 gal [9.10 l]	2.17 gal [8.2 l]	-	-

Table 4 *continues...*

Water Volume per Water Level - With No Load – Cabinet Hardmount Models								
Water Level	Machine Capacity							
	7.5 kg / 20 lb / 80 L	10.5 kg / 25 lb / 105 L	13.5 kg / 30 lb / 135 L	18 kg / 40 lb / 180 L	24 kg / 55 lb / 240 L	28 kg / 70 lb / 280 L	35 kg / 80 lb / 332 L	52 kg / 120 lb / 520 L
8	-	-	-	2.54 gal [9.6 l]	3.06 gal [11.60 l]	2.88 gal [10.9 l]	-	-
9	2.38 gal [9 l]	2.64 gal [10 l]	2.77 gal [10.5 l]	3.17 gal [12 l]	3.83 gal [14.50 l]	3.59 gal [13.6 l]	-	-
10	2.77 gal [10.5 l]	3.17 gal [12 l]	3.30 gal [12.5 l]	3.78 gal [14.3 l]	4.49 gal [17 l]	4.46 gal [16.9 l]	-	-
11	3.30 gal [12.5 l]	3.70 gal [14 l]	4.09 gal [15.5 l]	4.39 gal [16.6 l]	5.36 gal [20.3 l]	5.36 gal [20.3 l]	-	-
12	(1) 3.83 gal [14.5 l]	(1) 4.23 gal [16 l]	4.62 gal [17.5 l]	5.10 gal [19.3 l]	6.23 gal [23.6 l]	6.37 gal [24.1 l]	-	-
13	(2) 4.23 gal [16 l]	(2) 4.76 gal [18 l]	(1) 5.28 gal [20 l]	5.73 gal [21.7 l]	7.21 gal [27.3 l]	7.34 gal [27.8 l]	-	-
14	(3) 4.89 gal [18.5 l]	(3) 5.28 gal [20 l]	(2) 5.94 gal [22.5 l]	6.55 gal [24.8 l]	8.27 gal [31.3 l]	8.40 gal [31.8 l]	-	-
15	(4) 5.42 gal [20.5 l]	(4) 5.94 gal [22.5 l]	(3) 6.74 gal [25.5 l]	7.26 gal [27.5 l]	9.14 gal [34.6 l]	9.46 gal [35.8 l]	5.28 gal [20 l]	-
16	5.94 gal [22.5 l]	6.60 gal [25 l]	(4) 7.53 gal [28.5 l]	(1) 8.06 gal [30.5 l]	(1) 10.20 gal [38.6 l]	(1) 10.62 gal [40.2 l]	6.21 gal [23.5 l]	-
17	6.60 gal [25 l]	7.26 gal [27.5 l]	8.19 gal [31 l]	(2) 8.93 gal [33.8 l]	(2) 11.25 gal [42.6 l]	(2) 11.78 gal [44.6 l]	7.26 gal [27.5 l]	8.72 gal [33 l]
18	7.13 gal [27 l]	7.93 gal [30 l]	8.98 gal [34 l]	(3) 9.85 gal [37.3 l]	(3) 12.36 gal [46.8 l]	(3) 13.05 gal [49.4 l]	8.19 gal [31 l]	10.43 gal [39.5 l]
19	7.66 gal [29 l]	8.45 gal [32 l]	9.77 gal [37 l]	(4) 10.78 gal [40.8 l]	(4) 13.58 gal [51.4 l]	(4) 14.27 gal [54 l]	9.11 gal [34.5 l]	12.02 gal [45.5 l]
20	8.19 gal [31 l]	9.25 gal [35 l]	10.57 gal [40 l]	11.62 gal [44 l]	14.40 gal [54.5 l]	15.59 gal [59 l]	10.17 gal [38.5 l]	13.21 gal [50 l]
21	8.72 gal [33 l]	9.77 gal [37 l]	11.36 gal [43 l]	12.55 gal [47.5 l]	15.72 gal [59.5 l]	16.80 gal [63.6 l]	11.23 gal [42.5 l]	15.32 gal [58 l]
22	9.38 gal [35.5 l]	10.57 gal [40 l]	12.15 gal [46 l]	13.31 gal [50.4 l]	16.83 gal [63.7 l]	18.10 gal [68.5 l]	12.55 gal [47.5 l]	17.17 gal [65 l]
23	9.91 gal [37.5 l]	11.23 gal [42.5 l]	13.08 gal [49.5 l]	14.24 gal [53.9 l]	18.10 gal [68.5 l]	19.44 gal [73.6 l]	13.47 gal [51 l]	19.02 gal [72 l]
24	10.57 gal [40 l]	11.89 gal [45 l]	14 gal [53 l]	15.16 gal [57.4 l]	19.28 gal [73 l]	20.74 gal [78.5 l]	14.66 gal [55.5 l]	21 gal [79.5 l]

Table 4 *continues...*

Water Volume per Water Level - With No Load – Cabinet Hardmount Models								
Water Level	Machine Capacity							
	7.5 kg / 20 lb / 80 L	10.5 kg / 25 lb / 105 L	13.5 kg / 30 lb / 135 L	18 kg / 40 lb / 180 L	24 kg / 55 lb / 240 L	28 kg / 70 lb / 280 L	35 kg / 80 lb / 332 L	52 kg / 120 lb / 520 L
25	11.10 gal [42 l]	12.55 gal [47.5 l]	14.79 gal [56 l]	16.14 gal [61.1 l]	20.53 gal [77.7 l]	22.14 gal [83.8 l]	15.98 gal [60.5 l]	22.72 gal [86 l]
26	11.76 gal [44.5 l]	13.21 gal [50 l]	15.72 gal [59.5 l]	17.04 gal [64.5 l]	21.74 gal [82.3 l]	23.70 gal [89.7 l]	17.17 gal [65 l]	24.96 gal [94.5 l]
27	12.28 gal [46.5 l]	13.87 gal [52.5 l]	16.51 gal [62.5 l]	18.04 gal [68.3 l]	22.9 gal [86.7 l]	25 gal [94.6 l]	(1) 18.49 gal [70 l]	(1) 26.81 gal [101.5 l]
28	12.81 gal [48.5 l]	14.53 gal [55 l]	17.30 gal [65.5 l]	18.94 gal [71.7 l]	24.15 gal [91.4 l]	26.34 gal [99.7 l]	(2) 19.55 gal [74 l]	(2) 28.66 gal [108.5 l]
29	13.47 gal [51 l]	15.19 gal [57.5 l]	18.10 gal [68.5 l]	19.92 gal [75.4 l]	25.39 gal [96.1 l]	27.71 gal [104.9 l]	(3) 20.87 gal [79 l]	(3) 30.51 gal [115.5 l]
30	-	15.85 gal [60 l]	19.02 gal [72 l]	20.90 gal [79.1 l]	26.63 gal [100.8 l]	29.19 gal [110.5 l]	(4) 22.32 gal [84.5 l]	(4) 32.89 gal [124.5 l]
31	-	-	-	-	-	-	23.51 gal [89 l]	34.74 gal [131.5 l]
32	-	-	-	-	-	-	24.83 gal [94 l]	36.72 gal [139 l]
33	-	-	-	-	-	-	26.29 gal [99.5 l]	38.97 gal [147.5 l]
34	-	-	-	-	-	-	27.61 gal [104.5 l]	41.21 gal [156 l]
35	-	-	-	-	-	-	28.93 gal [109.5 l]	43.46 gal [164.5 l]
36	-	-	-	-	-	-	30.12 gal [114 l]	45.83 gal [173.5 l]
37	-	-	-	-	-	-	31.57 gal [119.5 l]	47.82 gal [181 l]
38	-	-	-	-	-	-	33.02 gal [125 l]	50.19 gal [190 l]
39	-	-	-	-	-	-	34.34 gal [130 l]	52.57 gal [199 l]
40	-	-	-	-	-	-	35.80 gal [135.5 l]	54.95 gal [208 l]
41	-	-	-	-	-	-	37.12 gal [140.5 l]	57.06 gal [216 l]

Table 4 *continues...*

Water Volume per Water Level - With No Load – Cabinet Hardmount Models								
Water Level	Machine Capacity							
	7.5 kg / 20 lb / 80 L	10.5 kg / 25 lb / 105 L	13.5 kg / 30 lb / 135 L	18 kg / 40 lb / 180 L	24 kg / 55 lb / 240 L	28 kg / 70 lb / 280 L	35 kg / 80 lb / 332 L	52 kg / 120 lb / 520 L
42	-	-	-	-	-	-	38.57 gal [146 l]	59.31 gal [224.5 l]
43	-	-	-	-	-	-	40.02 gal [151.5 l]	61.68 gal [233.5 l]
44	-	-	-	-	-	-	41.34 gal [156.5 l]	63.80 gal [241.5 l]
45	-	-	-	-	-	-	42.93 gal [162.5 l]	67.10 gal [254 l]
46	-	-	-	-	-	-	44.38 gal [168 l]	69.87 gal [264.5 l]
47	-	-	-	-	-	-	45.83 gal [173.5 l]	71.99 gal [272.5 l]
48	-	-	-	-	-	-	47.29 gal [179 l]	74.23 gal [281 l]
49	-	-	-	-	-	-	48.74 gal [184.5 l]	76.74 gal [290.5 l]
50	-	-	-	-	-	-	50.19 gal [190 l]	79.25 gal [300 l]
51	-	-	-	-	-	-	51.51 gal [195 l]	81.63 gal [309 l]
52	-	-	-	-	-	-	53.10 gal [201 l]	83.74 gal [317 l]
53	-	-	-	-	-	-	54.68 gal [207 l]	86.38 gal [327 l]
54	-	-	-	-	-	-	-	88.76 gal [336 l]
(1) Economic Low Level								
(2) Economic High Level								
(3) Normal Low Level								
(4) Normal High Level								

Table 4

Programmable Water Level

Programmable Water Level				
Machine Type	**Minimum Programmable Level**	**Normal Low Level Default Value**	**Normal High Level Default Value**	**Maximum Programmable Level**
Cabinet Freestanding				
6.5 kg / 14 lb / 65 L	9	13	14	29
7.5 kg / 20 lb / 80 L	9	14	15	29
10.5 kg / 25 lb / 105 L	9	14	15	30
13.5 kg / 30 lb / 135 L	9	15	16	30
18 kg / 40 lb / 180 L	7	18	19	30
24 kg / 55 lb / 240 L	7	18	19	30
28 kg / 70 lb / 280 L	7	18	19	30
Cabinet Hardmount				
7.5 kg / 20 lb / 80 L	9	14	15	29
10.5 kg / 25 lb / 105 L	9	14	15	30
13.5 kg / 30 lb / 135 L	9	15	16	30
18 kg / 40 lb / 180 L	7	18	19	30
24 kg / 55 lb / 240 L	7	18	19	30
28 kg / 70 lb / 280 L	7	18	19	30
35 kg / 80 lb / 332 L	15	29	30	53
52 kg / 120 lb / 520 L	17	29	30	54

Table 5

Speed of Machines with Frequency Inverter

Speed of Machines with Frequency Inverter								
	Wash Speed			**Spin Speed**				**Low Spin Speed**
Machine Type	**Default RPM**	**Minimum RPM**	**Maximum RPM**	**Default RPM**	**Minimum RPM**	**Locking RPM**	**Maximum RPM**	**Default RPM**
Cabinet Freestanding								
6.5 kg / 14 lb / 65 L (G-factor 400)	50	10	60	1120	150	91-149	1165	250

Table 6 *continues...*

Speed of Machines with Frequency Inverter								
	Wash Speed			Spin Speed				Low Spin Speed
Machine Type	Default RPM	Mini-mum RPM	Maxi-mum RPM	Default RPM	Mini-mum RPM	Lock-ing RPM	Maxi-mum RPM	Default RPM
7.5 kg / 20 lb / 80 L (G-factor 400)	50	10	60	1120	150	91-149	1165	250
10.5 kg / 25 lb / 105 L (G-factor 400)	46	10	60	1035	150	91-149	1075	250
13.5 kg / 30 lb / 135 L (G-factor 400)	46	10	60	1035	150	91-149	1075	250
18 kg / 40 lb / 180 L (G-factor 400)	42	10	60	940	150	91-149	980	250
24 kg / 55 lb / 240 L (G-factor 400)	42	10	60	940	150	91-149	980	250
28 kg / 70 lb / 280 L (G-factor 350)	42	10	55	875	150	91-149	915	250
Cabinet Hardmount								
7.5 kg / 20 lb / 80 L (G-factor 100)	50	10	60	530	150	91-149	580	250
7.5 kg / 20 lb / 80 L (G-factor 200)	50	10	60	780	150	91-149	820	250
10.5 kg / 25 lb / 105 L (G-factor 100)	46	10	60	490	150	91-149	540	250
10.5 kg / 25 lb / 105 L (G-factor 200)	46	10	60	720	150	91-149	760	250
13.5 kg / 30 lb / 135 L (G-factor 100)	46	10	60	490	150	91-149	540	250
13.5 kg / 30 lb / 135 L (G-factor 200)	46	10	60	720	150	91-149	760	250
18 kg / 40 lb / 180 L (G-factor 100)	42	10	55	440	150	91-149	490	250
18 kg / 40 lb / 180 L (G-factor 200)	42	10	55	640	150	91-149	690	250
24 kg / 55 lb / 240 L (G-factor 100)	42	10	55	440	150	91-149	490	250
24 kg / 55 lb / 240 L (G-factor 200)	42	10	55	640	150	91-149	690	250

Table 6 *continues...*

Speed of Machines with Frequency Inverter								
	Wash Speed			Spin Speed				Low Spin Speed
Machine Type	Default RPM	Minimum RPM	Maximum RPM	Default RPM	Minimum RPM	Locking RPM	Maximum RPM	Default RPM
28 kg / 70 lb / 280 L (G-factor 100)	42	10	55	440	150	91-149	490	250
28 kg / 70 lb / 280 L (G-factor 200)	42	10	55	640	150	91-149	690	250
35 kg / 80 lb / 332 L (G-factor 100)	38	10	55	390	150	91-149	440	250
35 kg / 80 lb / 332 L (G-factor 150)	38	10	55	490	150	91-149	540	250
52 kg / 120 lb / 520 L (G-factor 100)	38	10	55	390	150	91-149	440	250

Table 6

Programming the Wash Speed

- Standard reversing wash speed is between 40 and 50 RPM. Exact values can be found in *Table 6* .
- For some special applications the drum should only turn very slowly.

Speed Limits

- The minimum programmable wash speed is 10 RPM.
- The maximum programmable wash speed is 40 - 60 RPM, depending on machine size.

Programming Extraction Speed

Extraction [150 - 1165] RPM

- An Intermediate spin between two sequences should be about ½ of the max spin.
- Between 90 and 150 RPM . Refer to *Table 6* to verify exact value. It's not allowed to program a steady speed, as the machine could VIBRATE TOO MUCH.

Speed Limits

- Refer to *Table 6* which contains the minimum and maximum speed limits. The limits differ depending on the maximum allowed g-force at high spin for each washing machine type.

Programming Supplies

- Up to 4 Supplies can be programmed at the same time in a sequence.
- If Liquid soap pumps have been installed on the washing machine, then these pumps will be activated by programming a time value for the corresponding supply signal 1, 2, 3, 4, 5, 6, 7, 8.

Time Limits

- The maximum programmable time is 99 Seconds.
- If the time is 0 Seconds then the supply will NOT be activated at the wash process.

NOTE: If for some special application more than 4 supplies must be programmed in the same sequence, this can be solved by programming the same sequence twice; one after the other. Split the water level (so it will take water for the second fill, say 60%, 100%), step time, and the number of supplies, over the two subsequent sequences. Program A "NO DRAIN" between the two sequences to avoid draining the water. Set temperature the same for both parts.

Programming the Motor On and Off Times for Reversing

- The standard Reversing Motor On and Off times at Wash speed is 12 seconds On and 3 seconds Off.
- For Delicates and Woolens it's recommended to program a gentle wash action with a Reversing On time of 3 seconds and an Off time of 12 seconds.

Programming the Sequence Time

- The sequence time starts running after the water level is reached.
- If wait for Temperature has been selected, the sequence time starts running only once the programmed temperature has been reached at the heating process.
- For a Cooldown Sequence, the programmed time corresponds with the time for decreasing the water temperature.

Recommendation:

At least a cooldown of 3 minutes must be programmed. And to avoid the shrinking of the garments, it's recommended to program the time so that the temperature will decrease with about 37.4°F [3°C] for each minute.

NOTE: For a spray sequence, if a supply has been programmed, the sequence time corresponds with the programmed supply time.

Signal

- The signal should be programmed when a running wash cycle has to be interrupted.
- The Buzzer will be activated to alert the operator.
- For most cases, the operator interrupts a program to fill the soap box an additional time.
- The program interruption will always occur at the end of a step.

Initializing the Machine

Initializing the Machine Goes in Four Steps:

1. Install the machine mechanically. Refer to Installation/Operation/Maintenance Manual.
2. Select the machine specific settings in the Configuration Menu.
3. Select the operator specific settings in the Initialization Menu.
4. Adjust standard Programs or create new Programs at the Program Menu.

WARNING

The initialization should be performed by qualified personnel only. An incorrect initialization may cause serious injuries and serious damage to the machine!

C026

WARNING

Before making changes in the configuration and initialization menu read this manual carefully.

C027

Changes you have made will influence the wash program processes.

We recommend before making changes to carefully write down what the previous settings were.

As the wash computer is used for a whole range of washing machines, after the installation of a new wash computer, you need to program machine specific settings into the configuration menu.

At the installation of new software, after loading the factory settings you need to check the default settings one by one to find out if they correspond with the setup as you prefer.

The configuration and initialization of the washing machine has been done at the factory. For the creation of new programs, no changes have to be made in the initialization or configuration menus.

Initialization Menu

How to Get into the Initialization Menu

The initialization menu can only be accessed when the machine is in standby (the power is switched on, but no program is started).

- The program overview is shown.

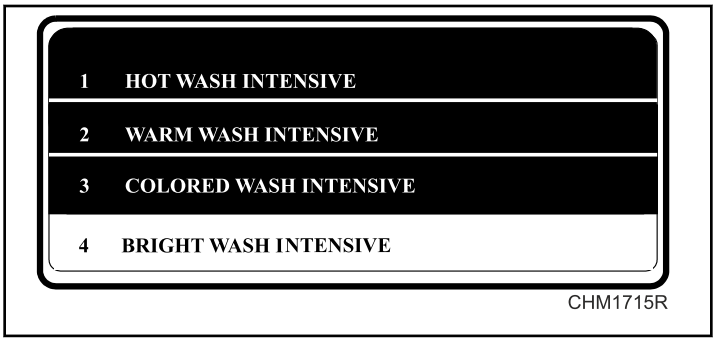


Figure 6

- Switch the machine to the setup mode. Refer to section *How to Get into the Setup Mode* .
- The Main menu is now available.
- The Initialization Menu is the first Menu.

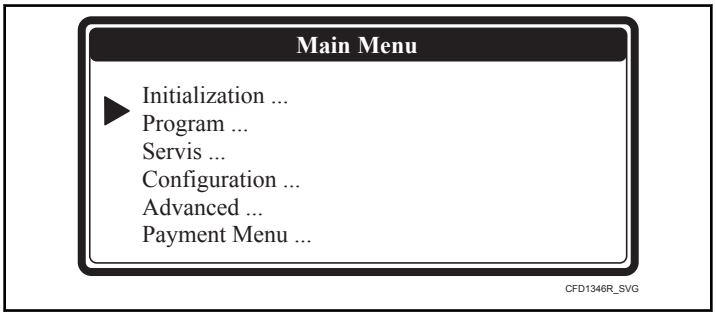


Figure 7

- Press the START button to make your selection.
- Now you will see the first menu item.
- By pressing the ARROW DOWN or UP button you can select the menu items one by one.

Initialization Menu			
Display Message	**Default**	**Information**	**Limits**
Language	**English**	Language selection: English, Spanish, French,…	List

Table 7 *continues...*

Initialization Menu			
Display Message	**Default**	**Information**	**Limits**
Service Interval	**3000**	Number of cycles at which maintenance is required. 9999: the servicing interval is ignored	1 - 9999
Buzzer Time	**5 seconds**	The time the Buzzer is beeping at end of wash cycle while "Unload" is displayed.	0 - 99
Allow Advance	**Yes**	The Advance function allows to Skip a Sequence or to extend & decrease the time of a sequence.	No / Yes
Automatic Cooldown	**No**	Automatic Cooldown (*) selection.	No / Yes
Wait for Temperature	**No**	Wash Process time is put on Hold as long as the programmed temperature hasn't been reached. Once the temperature has been reached, the wash cycle time will decrease.	No / Yes
Temperature Balance	**No**	The right water temperature at the water fill process is obtained by switching the cold and hot water inlet valves. For high temperatures extra heating will be required after the fill process. For some special customer applications, it is allowed to switch off the automatic Temperature Balance control.	No / Yes
Motor On Time	**12 seconds**	At normal wash action, drum turns for 12 seconds. Recommended 3 seconds for Gentle wash action. (Suggested values for the program menu).	1 - 99 seconds
Motor Off Time	**3 seconds**	At normal wash action, drum is stopped for 3 seconds. Recommended 12 seconds for Gentle wash action. (Suggested values for the program menu).	1 - 99 seconds
Smart Motion	**No**	This option decreases the drum R.P.M. during water filling therefore the laundry absorps water more quickly and washing efficiency increases.	No / Yes
Hot Water Heater Temp.	**140° F [60° C]**	The Hot Water Heater Temperature should correspond with the hot water supply of the washing machine. The value of the hot water supply temperature is required to obtain a correct bath temperature at the water fill process.	122 - 176° F [50 - 80 °C]
Temp. Overshoot Prot.	**0 %**	To avoid temperature overshoot at steam heating, the % value is the reduced temperature at which the heating is switching off before reaching the target value. In the tub cold and hot water gets mixed and if after 30 seconds the programmed target temperature is not reached, the heating will be started again.	0 - 30 %
Max. Heating Time	**60 Minutes**	A diagnostic message is generated by the wash computer when the water hasn't reached the programmed temperature in 60 Minutes. (Err 14). **NOTE: If 99 minutes has been selected, NO error message will be generated at all, even if the heating time exceeds 99 minutes. The machine will only stop heating when the programmed temperature has been reached.**	10 - 90 Minutes

Table 7 *continues...*

Initialization Menu			
Display Message	**Default**	**Information**	**Limits**
Heat.Err.Det.Time	**10 Minutes**	If Wait for Temperature has been enabled, Error 13 will appear in the control's display if the water temperature doesn't increase by 5.4°F [3°C] within the programmed amount of time.	10 - 20 Minutes
Max. Water Fill Time	**10 Minutes**	A diagnostic message is generated by the wash computer when the water hasn't reached the programmed level in 10 Minutes. (Err 11). **NOTE: If 99 minutes has been selected, NO error message will be generated at all, even if the heating time exceeds 99 minutes. The machine will only stop filling when the programmed water level has been reached.**	5 - 99 Minutes
Overfill Detection	**5 units**	A diagnostic message is generated by the wash computer when the water has reached the programmed level + 5 units. (Err 12). **NOTE: It's strongly recommended that the heating power of the steam installation has enough power to heat the bath quickly. Otherwise the tub will be filled with extra water and an error message will occur that the machine takes more then 5 units extra water. This will also increase the water, energy and detergent supply consumption.** To solve the problem in another way, reduce the programmed target water level so that less energy is needed to heat up the bath and with the extra water of the condensed steam you will wash with a normal amount of water.	3 - 25 units

Table 7 *continues...*

Initialization Menu			
Display Message	**Default**	**Information**	**Limits**
External Wait Control	**Off**	Liquid soap supply system: Slection for a washing machine connected to a central liquid soap supply system. Some washing machines are connected to a central liquid soap supply system which can only provide 1 washing machine at a time with liquid soap. This central pump system is able to let Wait the washing machine before continuing the wash process until the central pump system is free to pump the liquid soap supply into the machine. Heating, (for installations with limited power supply): You can disable the heating system of the machine by an external signal. The heating will switch on again and the wash process will continue as soon as the external signal is switched off. **Wait:** External signal suspends the whole wash process until the external signal gets switched off. **Time:** External signal stops the count-down of washing process. All functions of wash cycle continue. When the external signal stops, the count-down will continue in a standard manner.	No / Soap / Heating / Wait Time
Extra Soap Timing	**0 Seconds (Off)**	When enabled, this feature allows the soap dispenser valves to open individually for the programmed time.	0 - 20 Seconds
Prewash Soap Info	**Yes**	Selection whether the information on soap dosage for prewash should be shown or not.	No / Yes
Wash Liquid Soap Info	**Yes**	Selection whether the information on liquid soap dosage for the main wash should be shown or not.	No / Yes
Temp. info	**Yes**	Selection whether the temperature information of selected program should be displayed	No / Yes
Preset Program	**0**	Entering the number of pre-set program. After the wash cycle has finished and the door has been opened, the program selection will be set to the pre-set program. The value "0" means there is no pre-set program.	0..15
Direct selection 1	**0**	Direct selection 1 is a pre-set program which will start operating when the LEFT button is pressed. The 0 value means there is no pre-set program.	0..15

Table 7 *continues...*

Initialization Menu			
Display Message	**Default**	**Information**	**Limits**
Direct selection 2	**0**	Direct selection 2 is a pre-set program which will start operating when the RIGHT button is pressed. The 0 value means there is no pre-set program.	0..15
Eco mode	**0 min**	Setting of a time limit upon expiration of which the control electronics switch into an energy saving mode. 0 value means that the Energy Saving Mode is disabled.	0..99
Lock Pretest Limit	**0**	Setting of number of attempts for correct door closing before the program is started. If the number of attempts is exceeded, a warning message is generated. If set to 0, the test sequence of correct door closing will be skipped.	0 - 10
Safety Stop	**No**	When enabled, during washing machine can be stopped by pressing and holding "F" key.	No / Yes
Average Cycle Time	**No**	When enabled, the displayed cycle time is the average of the last 4 cycle times. This will be displayed next to the asterisk symbol (*). When disabled, the calculated washing cycle time will be displayed.	No / Yes
Exit		Return to Main Menu	

(*) Automatic Cooldown

To avoid mechanical temperature shock and to extend the life time of your washing machine, after a hot wash, cold water is temperature will be lowered to about 149°F [65°C].

The automatic cooldown function will only be functional if a hot wash with a temperature above 149°F [65°C] has been programmed and if a cold water inlet valve is programmed in the next step. When a Cooldown sequence has been programmed, the automatic cooldown will not function.

The automatic cooldown differs from a normal cooldown sequence. The purpose of a normal cooldown sequence is to avoid the shrinking of the garments. (Takes more time). Refer to section *Programming*.

Table 7

Configuration Menu

This electronic wash computer has been specially constructed for a wide range of washing machines. For that reason it must be individually set up with important parameters for various machine types. Basic machine adjusting is made in the factory.

WARNING

Only a qualified technician should change the configuration set up. An incorrect configuration can cause injuries and serious machine damage.

C028

How to Get into the Configuration Menu

The configuration menu can only be accessed when the machine is in standby (the power is switched on, but no program is started).

- The program overview is shown.
- Switch the machine to the setup mode. Refer to section *How to Get into the Setup Mode* .
- The Main Menu is now available.
- Press the ARROW DOWN button to select the Configuration Menu.

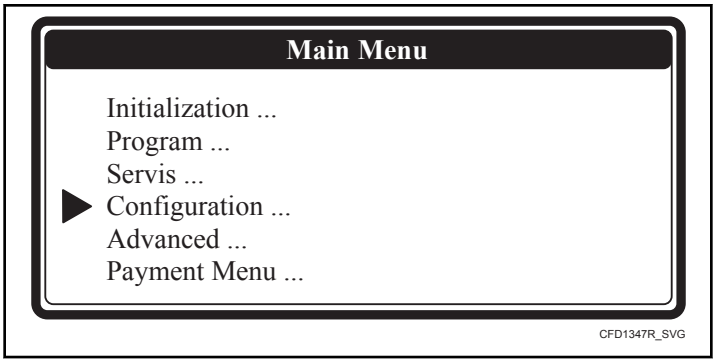


Figure 8

- Press the ENTER button to make your selection.
- For the Configuration Menu a password is required.

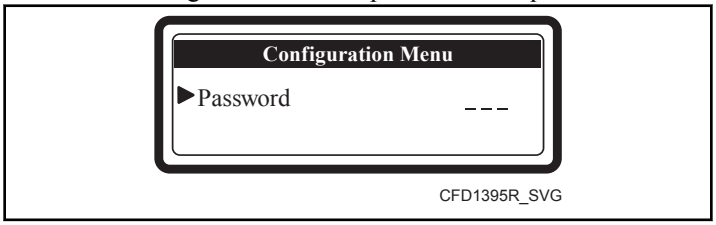


Figure 9

Passwords

- Insert **321** for models outside of North America, starting software version 772.100.0 and press the **ENTER** button.
- Insert **206** for models outside of North America that start with a “A” or “L”, starting software version 772.217.0 and press the **ENTER** button.
- For entering numerical values refer to chapter *Entering and Changing Values Utilizing the Control Keypad*.
- Now you will see the first menu item.
- By pressing the **ARROW DOWN** or **UP** button you can select the menu items one by one.

Configuration Menu			
Display Message	**Default**	**Information**	**Limits**
Machine Type **Are You Sure ?**	**XXXX** **No**	Select the right machine type. • Look at Machine Name Plate at the rear of the washing machine. • Confirm selection of the machine type. **NOTE: Reset Defaults must (only) be executed for each new installed wash Computer and after selecting a new machine type. This will ensure correct EEPROM memory configuration (just by selecting another machine type the default settings are not reloaded).** **NOTE: By changing the machine type the wash programs kept in EEPROM memory are not changed. After changing the wash machine type it's recommended to erase the program memory and load the standard wash programs again as the wash program settings differ for each machine type.** **NOTE: Make sure that you have selected the correct machine type. There is only one correct setting for machine type. If the wrong machine type was selected, replace the display board or send it to the factory for repair.**	List No / Yes

Table 8 *continues...*

Configuration Menu			
Display Message	**Default**	**Information**	**Limits**
Reset Defaults ? **Are You Sure ?**	**No** **No**	All the Initialization and Configuration Menu Settings will be reset to its default Factory settings. Should only be used at SETUP of a new wash computer. • Confirm that you want to Reset Defaults. **NOTE: Reset Defaults must (only) be executed for each new installed wash Computer and after selecting a new machine type, to ensure correct EEPROM memory configuration!** **NOTE: Be sure you want to erase the old settings, as they can´t be recaptured.**	No / Yes No / Yes
Brightness Display	**12**	The brightness of the display is changed by adjusting the contrast of the optimal viewing angle.	1 - 20
Inverter Menu…		**NOTE: The washing machine can only operate correctly if the correct inverter (same as washing machine) has been set in the Configuration menu.**	
Supply Voltage XXXXXXX **(Inverter Type)**	**No**	Select the correct inverter. • Look at Machine Name Plate on the rear of the washing machine. • Select the Supply Voltage as shown on the Machine Name Plate. The frequency inverter will be selected by default. • Check Inverter Type. **NOTE: The washing machine can only perform properly if the inverter contains the right list of inverter parameters. By the wash computer it is possible to load the list of parameters in the inverter. Make sure that the correct Supply Voltage has been selected first.**	List

Load Param… Are You Sure ?	**No**	**NOTE: Loading parameters is only required after installing a new inverter.**
		Load the inverter Parameters.
		• Door must be closed.
		• Check if the SETUP is correct.
		  • Parameter List Version
		  • Machine type, inverter type, softw version
		• Confirm that you want to load the inverter Parameters.
		• Check status screen while parameters are loaded.
		  • Sending Param.: 0 - 100 %
		  • Verify Param: 0 - 100 %
			No / Yes

Table 8 *continues...*

Configuration Menu			
Display Message	**Default**	**Information**	**Limits**
Total Number of Inlets	**2**	A washing machine can be delivered with 2 or 3 main water Inlet supplies. A machine with 2 main water inlet supplies is prepared for: • soft warm water • soft cold water A machine with 3 main water inlet supplies is prepared for: • soft warm water • soft cold water • hard or recycled cold water Depending on this selection other inlet valves will be suggested at the final rinse sequence. Depending on this selection other inlet valves will be programmed when the standard programs are loaded.	2 / 3
Drain Val.1 Inverted	**No**	If a drain valve 1 with inverted function (normally closed) or a pump is used on the machine, then this item must be set to “Yes”.	No / Yes
Drain Valve 2	**No**	Some machines with water recovery are equipped with a second drain valve. If this second drain valve is a normal Closed drain Valve, then drain valve 2 must be Selected Yes.	No / Yes
Liquid Soap Supply	**No**	Some washing machines function with external Liquid soap supplies and others do not. To program External Liquid soap supplies at the Program Menu, this selection must be Yes.	No / Yes
Min. Level Start Sup.	**5 units**	Soap Supply signals are only started when the pre-set "Minimum water level Start Supply" has been reached. Refer to *Table 5* , minimum programmable levels. **NOTE: Setting a low or even 0 level increases the risk of chemical corrosion of the drain valve and the hose between the tub and drain valve as undiluted detergents will get in contact with these parts.**	0 - Minimum progr. level
Temperature	**Celsius**	Select Celsius or Fahrenheit, depending if you prefer that the temperature is displayed in degrees Celsius or degrees Fahrenheit.	Fahrenheit [Celsius]

Table 8 *continues...*

Configuration Menu			
Display Message	**Default**	**Information**	**Limits**
Full Heating	**1 %**	This function allows to reduce the energy consumption at long hot washes. When the heating has reached the programmed target temperature, heating will be restarted when the bath temperature goes below the temperature hysteresis. • Full Heating 100 %, the heating will be restarted until the end of the hot wash sequence. • Full Heating 1 %, the heating will not be restarted once the target temperature has been reached. • Full Heating 67 %, the heating will be switched Off 1/3 before the end of the hot wash sequence. **NOTE: In case of a hygienic program, 100% must be selected.**	1 - 100 %
Wet Cleaning	**No**	Selection Wet Cleaning allows to program water levels below the standard minimum programmable levels. The heating will not be functional for a water level below the standard minimum programmable water level.	No / Yes
Wash programs **Language** **Load programs**	**EU** **English** **EU**	The manufacturer provides standard set of programs (EU) and several customer sets. To change a set of programs, select a set from a list of available sets and confirm the selection. **NOTE: After the selection of a different washing machine has been made, it is advisable to load the standard programs in the memory. Thus you will make sure, that the machine is not operated with incorrect water levels or drum rotational speed.**	List of available washing sets
Communication Addr.	**255**	Each washing machine in the serial RS485 washing machine communication network must have a unique Communication Address. (Master - Slave) **NOTE: If 2 or more machines have the same Communication Address the communication network will not function properly.**	1 - 255
Exit		Return to Main Menu	

Table 8

Advanced Menu

Some special wash computer applications are only accessible by the Advanced Menu. In the advanced menu you can find the not frequently used, optional and special applications.

How to Get into the Advanced Menu

The Advanced menu can only be accessed when the machine is in standby (the power is switched on, but no program is started).

- The program overview is shown.
- Switch the machine to the setup mode. Refer to section *How to Get into the Setup Mode* .
- The Main menu is now available.
- Select the Advanced Menu after turning it on in the Configuration menu.

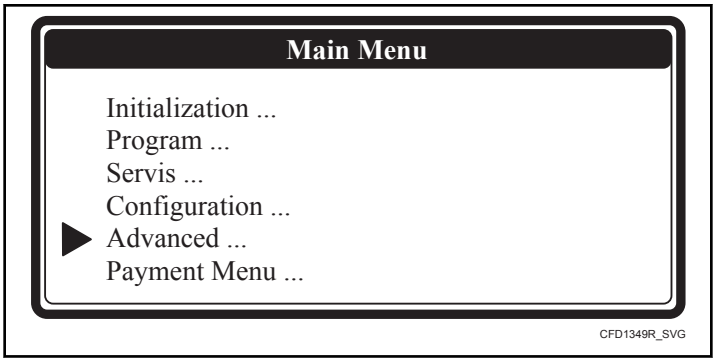


Figure 10

The advanced menu contains a list of extra menus with special functions:

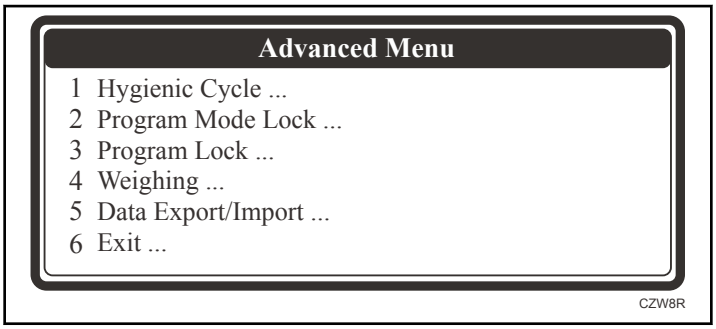


Figure 11

Hygienic Cycle Menu

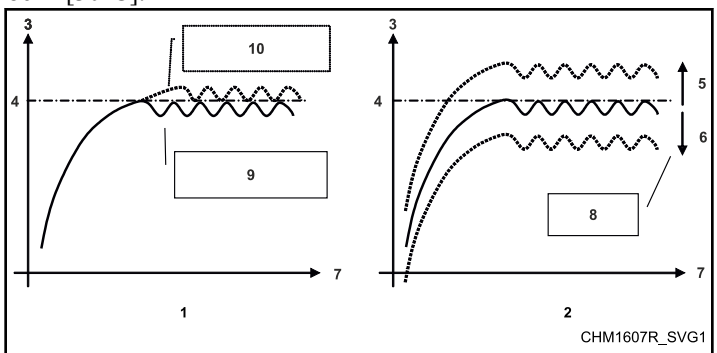
Strict Temperature Control

In normal operation, the washing machine heating system works with a temperature control hysteresis below the programmed target temperature value.

Some washing machine operators want strict temperature control for hygienic wash cycles.

Example: this means when 158°F [70°C] is programmed, the linen must be washed at a temperature that doesn't drop below 158°F [70°C]. This solution is possible by switching on the "Strict Temperature Control" function. In this case the wash computer works with a temperature control with a hysteresis above the programmed temperature value.

Strict Temperature Control is not applicable for delicates and woolens, and will not work for a programmed temperature < 86°F [30°C].



1. Strict Temperature Control
2. Temperature Calibration Offset
3. Water temperature
4. Target Temperature Calibration
5. Target Temperature Calibration: +9°F or +5°C
6. Target Temperature Calibration: -9°F or -5°C
7. Time
8. Offset adjustment
9. Normal Temperature Control
10. Strict Temperature Control

Figure 12

Temperature Calibration Offset

The temperature sensor of the washing machine can be calibrated with an external temperature measurement device as reference. The temperature sensor value can be adjusted in a range of +9°F or +5°C and -9°F or -5°C.

For normal washing machine use such calibration is not required.

Hygienic Cycle Menu			
Display Message	**Default**	**Information**	**Limits**
Strict Temp. Control	**No**	Strict Temperature Control ensures that the fabrics are washed at same value as the programmed target temperature.	No / Yes
Temp. Calib. Offset	**0**	By changing the Temperature Calibration Offset value the water temperature sensor value is adjusted so that it gets equal with the value of an external reference temperature sensor.	+9°F or +5°C -9°F or -5°C

Table 9 *continues...*

Hygienic Cycle Menu			
Display Message	**Default**	**Information**	**Limits**
Hygienic Water Level	**No**	This option activates the mode of more accurate checks of the required water level during the washing procedure.	No / Yes
Exit		Return to Advanced Menu.	

Table 9

Program Mode Lock Menu

The access to the Program Mode can be locked by a password. It means that without password you can't have access to the Main Menu Screen.

Program Mode Lock Menu			
Display Message	**Default**	**Information**	**Limits**
Password	**None**	Enter a 4 digit value for the Password and press ENTER. **NOTE: The Password will not be requested if it has not been set.**	0000 - 99999
Edit Password …			
New Password ….		Insert a 4 digit numeric value to create a new password.	
No Password …		Select the menu item "No Password" if you want to get rid of the Password.	
Old Password ….		To change the Password insert first the old Password, then you are invited to create a new Password.	
Exit		Return to Advanced Menu	

Table 10

Program Lock Menu

Each wash program can be locked individually.

When the program is locked, it means no settings can be changed anymore.

It avoids that programs once created get changed by somebody else.

To get access to this menu a password is needed if it has been set.

Program Lock Menu			
Display Message	**Default**	**Information**	**Limits**
Password	**None**	Enter a 4 digit value for the Password and press ENTER. **NOTE: The Password will not be requested if it has not been set.**	0000 - 99999
Programs …	**Unlocked**	Each program can be locked – unlocked individually. When the program is locked, it means no Program settings can be changed anymore. It avoids that programs once created get changed by somebody else.	
1 HOT 194°F [90°C] INTENS (Unlocked) **2 WARM 140°F [60°C] INTENS (Locked)**			
15 HIGH EXTRACT (Unlocked)			
EXIT			
Edit Password …			
New Password ….		Insert a 4 digit numeric value to create a new password.	
No Password …		Select the menu item "No Password" if you want to get rid of the Password.	
Old Password ….		To change the Password insert first the old Password, then you are invited to create a new Password.	
Exit		Return to Advanced Menu	

Table 11

Weighing Menu

Weighing Menu			
Display Message	**Default**	**Information**	**Limits**
Weighing System	**No**	No - without weighing Ultra - automatic linen-weighing system	No / Ultra
Weighing Enable Menu		To display sub-menu in which it is possible to enable or disable the automatic weighing function for individual wash programs.	

Table 12 *continues...*

Weighing Menu			
Display Message	**Default**	**Information**	**Limits**
Calibration		To display sub-menu for weighing system calibration. The weighing calibration must be carried out on a new machine and after each service intervention which influences the weighing accuracy: Service interventions: motor replacement, frequency inverter replacement, changes in the drum seating, belt or pulley replacement.	
Weighing system Counter	**0**	Auxiliary counter of weighing cycles.	
Reset Weighing Cnt	**No**	After a service intervention which may influence the weighing accuracy, the weighing system counter must be reset to zero. Refer to Calibration.	No / Yes
Autom.Soap Adjust	**No**	If amount of linen loaded into the machine is lower than the capacity of the machine, the value of time for liquid soap signal will be automatically adjusted accordingly. Thus, the liquid soap consumption is reduced.	No / Yes
Weighing Statistics…		To display a sub-menu with statistics of the weighed values.	No / Yes
Service Test Value		Auxiliary servicing value.	
Exit		Return to Advanced Menu	

Table 12

Data EXPORT / IMPORT

Data EXPORT / IMPORT			
Display Message	**Default**	**Information**	**Limits**
Programs Export	**No**	All wash programs and washer settings are copied from the control board internal memory onto a USB flash disk. (The USB flash disk must be inserted in the USB connector).	No / Yes
Programs Import	**No**	All wash programs are copied from USB flash disk into the control board internal memory. (The USB flash disk must be inserted in the USB connector). Wash programs can only be copied into the washer from the same model of washer (i.e. from 6.5 kg / 14 lb / 65 L machine into another 6.5 kg / 14 lb / 65 L machine).	No / Yes
Conf. Import	**No**	Settings of the machine are copied from USB flash disk into the control board internal memory. (The USB flash disk must be inserted in the USB connector). Settings can only be copied into the washer from the same model of washer (i.e. from 6.5 kg / 14 lb / 65 L machine into another 6.5 kg / 14 lb / 65 L machine).	No / Yes

Table 13 *continues...*

Data EXPORT / IMPORT			
Display Message	**Default**	**Information**	**Limits**
Exit		Return to Advanced Menu.	

Table 13

Payment Menu

The payment menu serves the purpose of setting the payment mode of the machine, values of coins, prices of programs and optional special functions.

How to Get into the Payment Menu

The Payment Menu can only be accessed when the machine is in the standby state (the power is switched on, but no program is started).

- The program overview is shown.
- Switch the machine into the setup mode. Refer to section *How to Get into the Setup Mode* .
- The main menu is now available.
- In the configuration menu select the Payment Menu.

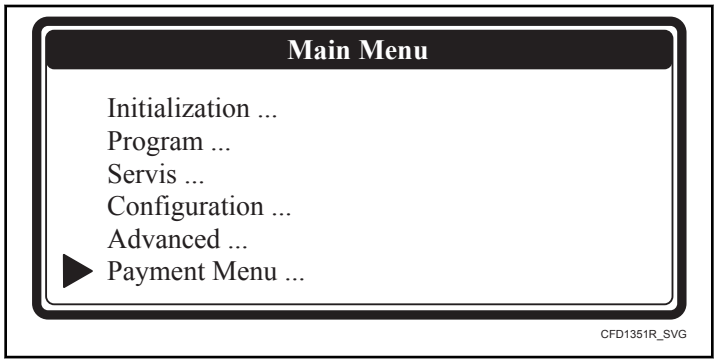


Figure 13

Payment Menu			
Display Message	**Default**	**Information**	**Limits**
Payment mode	**No**	Selection of payment mode type. Refer to *Selection of Payment Mode* .	No / Coins / External / Comm1 / Comm2 / Comm3 / Card ECB
Decimal Point	**0**	Selection of number of digits behind the decimal point. **Only applicable to the Payment mode = Coins or Comm3**	0 / 1 / 2
Coin	**1**	Selection of the number of coin drops on a machine. **Only applicable to the Payment mode = Coins**	1 / 2
Coin 1 Value	**100**	Coin value of the first coin drop. **Only applicable to the Payment mode = Coins**	0..999
Coin 1 Currency	**€**	Currency selection of the first coin drop. **Only applicable to the Payment mode = Coins**	List of currencies
Coin 2 Value	**100**	Coin value of the second coin drop. **Only applicable to the Payment mode = Coins**	0..999

Table 14 *continues...*

Payment Menu			
Display Message	**Default**	**Information**	**Limits**
Coin 2 Currency	**€**	Currency selection of the second coin drop. **Only applicable to the Payment mode = Coins**	List of currencies
Prog Prices		Setting the prices of wash programs, prewash and extra rinse.	0..9999
Price Prog 1	**100**	Depends on the settings of each machine.	
...			
Price Prog 15	**100**	Depends on the settings of each machine.	
Price Prewash	**0**	**Only applicable to the Payment mode = Coins**	
Special Prices		Setting special prices of wash programs, prewash and extra rinse.	0..9999
Enable Special Price	**No**	Special prices are used if they are enabled and a corresponding input of the control board is activated (such as by timer).	
Price Program 1	**100**		
...			
Price Program 15	**100**		
Special Price Prewash	**0**	**Only applicable to the Payment mode = Coins**	
Program Blocking		Blocking (disabling) of wash programs.	Yes/No
Enable Pr1	**Yes**		
...			
Enable Pr15	**Yes**		
Optional Functions	**No**	Selection of additional functions. Refer to *Selection of Additional Functions* .	No / Prewash
Delayed Start	**No**	The delayed start function enables to carry out a start delay of a selected wash cycle. The maximum time delay is 24 hours.	Yes/No
Show Start Info	**No**	Selection whether a prompt to start a program shall be displayed after making payment. **Only for payment mode = Coins and external.**	Yes/No
Show Prog Nr	**Number+temperature**	The selection of program information display type in the main program menu	No Number Temperature Number + temperature

Table 14 *continues...*

Payment Menu			
Display Message	**Default**	**Information**	**Limits**
Show Prog Time	**Yes**	Selection whether the time information of selected program should be displayed.	Yes/No
Show soap info	**No**	Selection whether the dosage information during program selection should be displayed.	Yes/No
Show Error Details	**No**	Selection, whether detailed information on the error shall be shown on the display.	Yes/No
Exit		Return to Main Menu	

Table 14

Selection of Payment Mode

No : Machine without a payment system (OPL).

Coin : Machine with a coin drop (including electronic. Refer to *Electronic Coin Selector*.

External : External payment unit that operates with free contacts (relay).

Comm1 : External payment unit that operates directly through Network Communication.

Comm2 : External payment unit that operates directly through Network Communication.

CRD : Card based central payment system connected to the programmer via free contacts.

ECB : Electronic coin selector equipped with the blocking (disabling) function.

The CRD selection enables to connect a central card payment system to the programmer. It is a special application and a consultation with the manufacturer is necessary.

The ECB selection is designated for connection of blocking (disabling) of the electronic coin selector coil to the programmer of the washing machine. If a wash program is running or if the machine is in a failure state, the coin drop will not accept coins. For connecting the coil to the programmer see the electrical wiring diagram.

Selection of Additional Functions

One additional function may be selected from the Additional Functions menu. This additional function may be activated (selected) by the washing machine user (customer) during the process of wash program selection.

Available Additional Functions

Prewash

- Switches on and off the standard prewash sequence.

Gentle wash function

- The Gentle wash function enables the wash cycle with minimum motor output. (3 seconds switched on - 12 seconds switched off).

No extraction function

- Economy function – enables to carry out wash cycle without the extraction sequence.

Rinsing

- The rinsing sequence is carried out with programs with pre wash.
- The rinse temperature corresponds to the temperature of the prewash, high water level is used.
- Maximum rinsing time is 24 hours.

Extraction

- With this function you can select the extraction speed (revolutions of the spinning sequence).

How to Create and Adjust a Wash Program

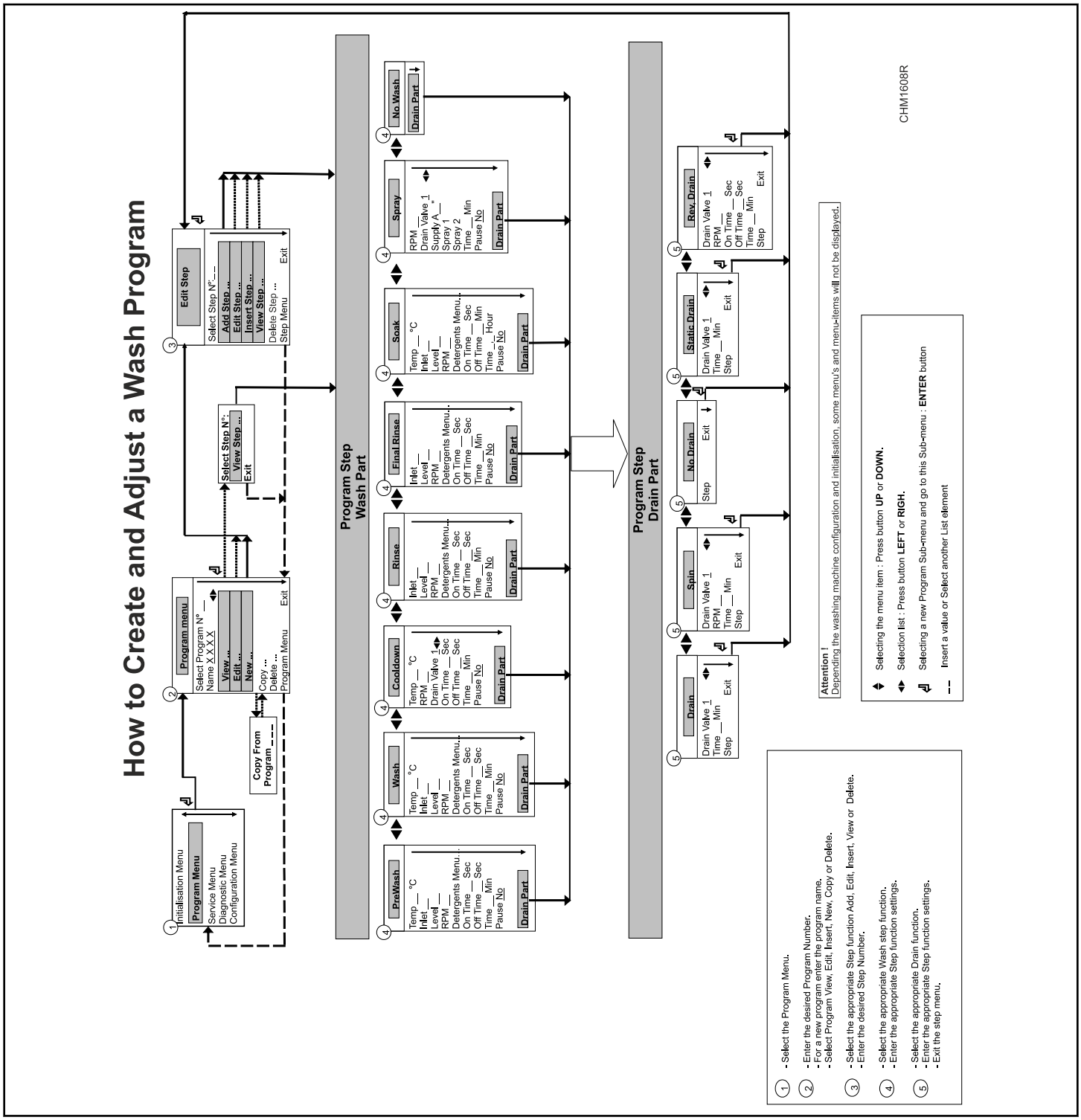


Figure 14

Programming

General

Specific functions have been implemented in the wash computer to allow detailed programming.

Functions for the Complete Program

- Program Number : Selecting the wash Program.
- Name : Insert or Modify the Name for the Program.
- View : Inspecting the Program settings without making changes.
- Edit : Adjusting a Program.
- New : Creating a New Program.
- Copy : Making a Copy of an existing Program.
- Delete : Erase the Program.
- Exit : Leave the Program Menu.

Functions for the Program Steps

- Step Number : Selecting the Program Step.
- Add : Adding a Program Step at the end of the program.
- Edit : Adjusting the Program Step.
- Insert : Adding a Program Step between two other steps.
- View : Inspecting the Step settings without making changes.
- Delete : Deleting a Step.
- Exit : Leave the Program Step Menu.

Follow the flowchart step by step.

Step 1: Program Menu

How to Get into the Program Menu

The Program menu can only be accessed when the machine is in standby (the machine is powered up but no program is started).

- The program overview is shown.
- Switch the machine to the setup mode. Refer to section *How to Get into the Setup Mode* .
- The Main menu is now available.
- Press the ARROW DOWN button to select the Program Menu.

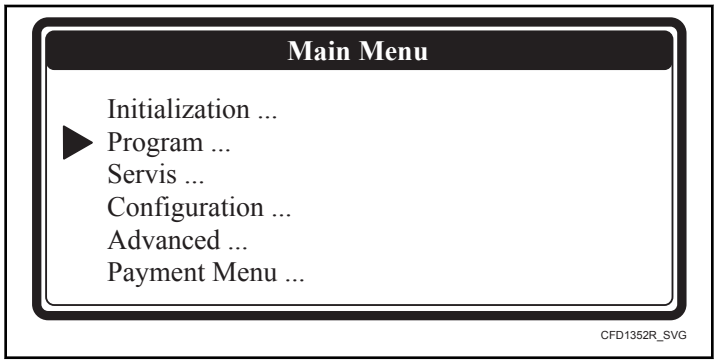


Figure 15

- Press the ENTER button to confirm your selection.
- Go to *Step 2: Program Functions* .

Step 2: Program Functions

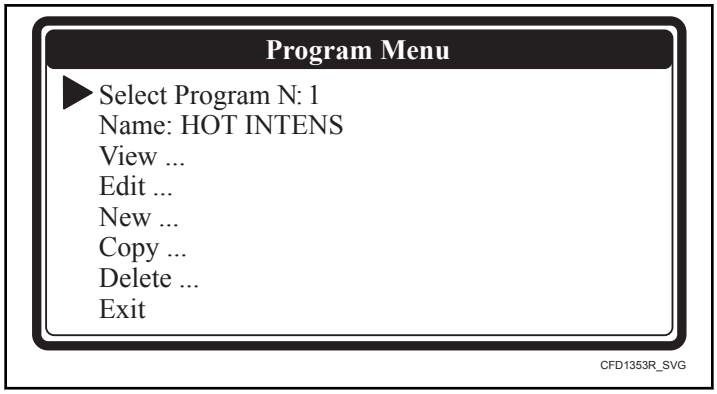


Figure 16

In the Advanced Menu, it is possible to lock / unlock each wash program individually.

If a program is locked, “Locked” is displayed in brackets next to the program number and it is not possible to change the wash programs. Only the View function will be functional and the other functions to adjust the program will be disabled.

Program Functions	
Display Message	**Information**
Select Program Number: 1	Use the hidden navigation buttons LEFT and RIGHT to select the program number. Numbers from 1 to 15 can be selected.

Table 15 *continues...*

Program Functions	
Display Message	**Information**
Name: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _	The Program Name gives information about the type of wash Program. With the hidden navigation buttons LEFT and RIGHT you can select the character position. With the ARROW UP and DOWN button you can select the desired character. By pressing the ENTER button, the dashes will disappear.
View	In Program View you can look to the Program Settings, without making any changes.
Edit	Editing a program is changing the program by selecting a new element from a list or by changing values in an existing program. You can also add, insert or delete steps in an existing program.
New	To create a new program, you have to make use of the add step function. By adding steps the program will grow step by step. A confirmation is asked first to delete the old program.
Copy **Copy From Program Number: XXX**	Sometimes it's easier to make a copy of an existing program and to make some small changes to the copied program. Insert the desired program number from which you want to copy the program. A confirmation is asked first to delete the old program.
Delete a Program	To get rid of an existing program, use the delete program function. The complete program will be erased at once. A confirmation is asked first to delete the old program.
Exit	Return to Main Menu

Table 15

Step 3: Program Step Function

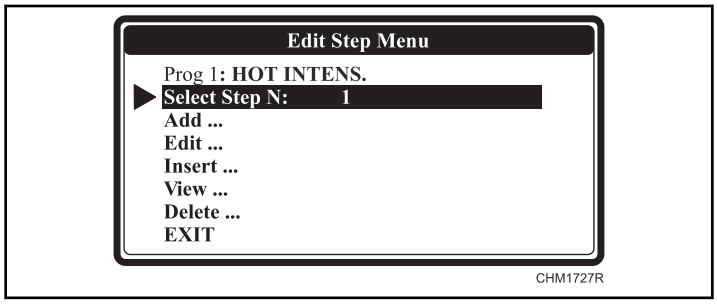
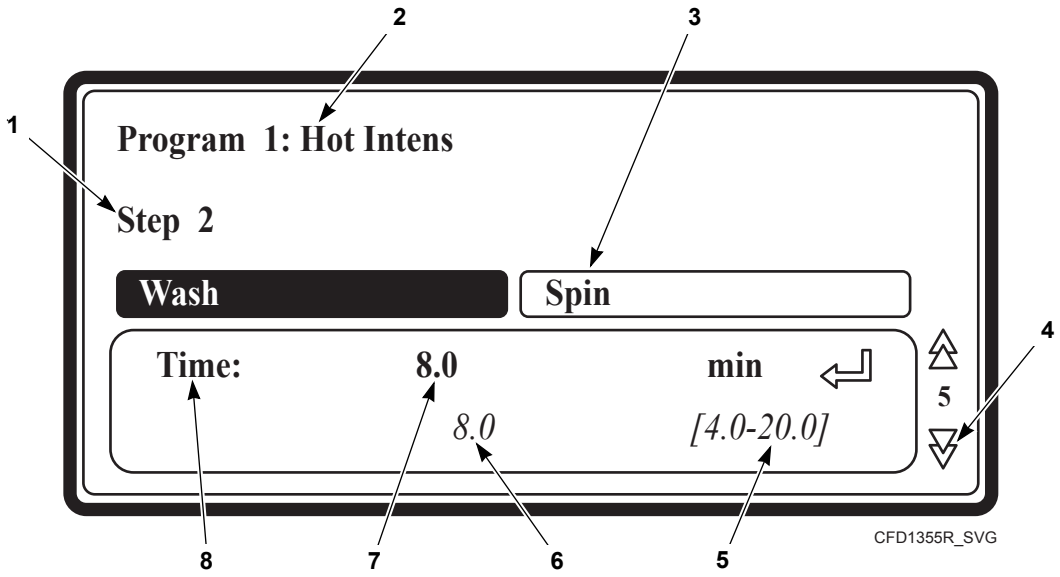


Figure 17

Program Step Function	
Display Message	**Information**
Select Step Number: 1	Use the hidden navigation buttons LEFT and RIGHT to select the program number.
Add Step	To create new programs, a new extra step should be added at the end of the program.
Edit Step	To change values and list elements from an existing step.
Insert Step	A new step is inserted in between two existing steps. If the number is not accepted, this means there is no step with a step number = inserted number - 1 available. A new step can only be inserted between two available steps.
View Step	Before making changes in a wash program, it's recommended to have a look at the actual settings by the view function. No changes can be made at the View Step function.
Delete Step	An existing Step in the program disappears when it's deleted. A confirmation is asked first before deleting the Old Step.
Exit	Return to Program Menu

Table 16

Step 4: Programming the Wash Part



1. Step number
2. Program number + name
3. STEP Wash « » Spin part
4. Menu item
5. Value menu item
6. Original value
7. Limits menu item
8. Position menu item

Figure 18

This paragraph gives a detailed explanation about programming the Wash Sequences.

- Each program step contains a wash part and a drain/spin part.
- First the wash part must be selected, item by item can be programmed.
- Next the drain/spin part must be selected, item by item can be programmed. Refer to section *Step 5: Programming the Drain Step*.
- Without making changes you can watch item by item, by pressing the ARROW DOWN or UP button.
- If you want to make changes:
  - Insert a new value.
  - Enable or disable a Setting by pressing the YES or NO button.
  - Select a list element by pressing the buttons LEFT or RIGHT button.
  - You always need to confirm by pressing the START button.
- Each time you add or insert a new step, default values have been pre-programmed. So with less effort, complete programs can be programmed. Refer to *Basic Description of Controls* for a general explanation concerning the creation of wash programs.
- You can recognize a list element by the buttons LEFT and RIGHT symbol at the right side on the display.
- The arrow down symbol on the display points to the last Menu Item : EXIT.

Selecting the Wash Part

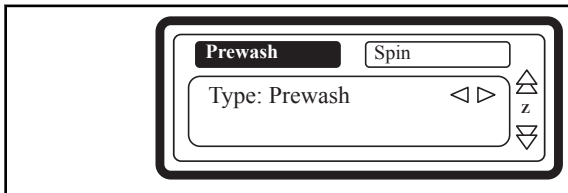


Figure 19

- If you have selected Add Step, Edit Step or Insert Step, you have to select the wash sequence now.
- Depending on the machine type, with top or front soap dispenser, you have more or less sequences available.
- Prewash

- **Wash**
- Cooldown
- Rinse
- Final Rinse
- Soak
- Spray
- No wash

- For a new step, as a default, the first displayed function is the Wash sequence.
- Now by pressing the buttons LEFT or RIGHT, you can select the desired sequence.
- Press the ENTER button to confirm.
- You can also use the ARROW DOWN button if you accept the pre-programmed default value.

The Prewash Sequence

- **Prewash**
- Wash
- Cooldown
- Rinse
- Final Rinse
- Soak
- Spray
- No wash

The Prewash Sequence			
Display Message	**Default**	**Information**	**Limits**
Temperature	**104° F [40°C]**	The water temperature.	33.8 - 113 °F [1 - 45 °C]
Inlet	**I1 – I5** (104 °F [40°C])	The suggested inlet valves are related to the temperature and the soap box to be used. **NOTE: If you insert other inlet valves than the suggested ones, problems can occur at the water fill process.**	I1...I8
Level	**Normal Low**	The suggested water level depends on the machine Type.	Refer to *Table 5*
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Detergents Menu… **Supply 1, …, 8**	**0 seconds**	Time selection for external liquid soap supplies. You can program up to 4 supplies at the same time. If you have programmed more then 4 supplies an error message will be generated. Put the time of the supplies back to zero until not more than 4 non-zero time values are remaining. (Liquid soap supplies must be switched on at the configuration Menu)	0 - 99 seconds
On Time	**12 seconds**	The wash action (motor "On" Time). Gentle wash action : 3 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Off Time	**3 seconds**	The wash action (motor "Off" Time). Gentle wash action : 12 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Time	**4.0 minutes**	The Prewash Sequence Time. (for 0 Minutes the Prewash sequence will be skipped) (programmable in steps of 0.5 Minutes)	0 - 99.5 minutes

Table 17 *continues...*

The Prewash Sequence			
Display Message	**Default**	**Information**	**Limits**
Pause	**No**	When a signal Pause is programmed, a pause will be introduced at the end of the Wash Step. This allows the operator to add soap for the next step. A buzzer signal warns the operator that the cycle has been interrupted.	No / Yes

Table 17

The Wash Sequence

- Prewash
- **Wash**
- Cooldown
- Rinse
- Final Rinse
- Soak
- Spray
- No wash

The Wash Sequence			
Display Message	**Default**	**Information**	**Limits**
Temperature	**140°F [60°C]**	The water temperature.	33.8 - 197.6°F [1 - 92°C]
Inlet	**I1-I2-I3-I5-I6-I8**	The suggested inlet valves are related to the temperature and the soap box to be used. **NOTE: If you insert other inlet valves than the suggested ones, problems can occur at the water fill process.**	I1...I8
Level	**Normal Low**	The suggested water level depends on the machine Type.	Refer to *Table 5*
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Detergents Menu… **Supply 1, …, 8**	**0 seconds**	Time selection for Soap Boxes (hopper) and external liquid soap supplies. You can program up to 4 supplies at the same time. If you have programmed more then 4 supplies an error message will be generated. Put the time of the supplies back to zero until not more than 4 non-zero time values are remaining. (Liquid Soap Supplies Must Be Switched On At The Configuration Menu)	0 - 99 seconds
On Time	**12 seconds**	The wash action (motor "On" Time). Gentle wash action : 3 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds

Table 18 *continues...*

The Wash Sequence			
Display Message	**Default**	**Information**	**Limits**
Off Time	**3 seconds**	The wash action (motor "Off" Time). Gentle wash action : 12 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Time	**7.0 minutes**	The Wash Sequence Time. (for 0 Minutes the Wash sequence will be skipped) (programmable in steps of 0.5 Minutes)	0 - 99.5 minutes
Pause	**No**	When a signal Pause is programmed, a pause will be introduced at the end of the Wash Step. This allows the operator to add soap for the next step. A buzzer signal warns the operator that the cycle has been interrupted.	No / Yes

Table 18

The Cooldown Sequence

- Prewash
- Wash
- **Cooldown**
- Rinse
- Final Rinse
- Soak
- Spray
- No wash

- After a Hot wash you can program a Cooldown Sequence to avoid temperature shock and shrinking of the garments.
- The drain step after the Hot wash must be put on NO DRAIN.
- No inlets are programmable :
  - machine with three water inlets: inlet 7 is the standard inlet.
  - machine with two water inlets: inlet 1 is the standard inlet.
- The water level can‘t be programmed as the process of adding and draining water doesn’t allow this.

WARNING

Do not program a drain sequence before a cooldown sequence.

C048

The Cooldown Sequence			
Display Message	**Default**	**Information**	**Limits**
Temperature	**140 °F [60 °C]**	The water temperature.	33.8 - 140 °F [1 - 60 °C]
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Drain Valve	**1**	Only available on washing machines with both : a normal Open and normal Closed Drain valve.	1 - 2

Table 19 *continues...*

The Cooldown Sequence			
Display Message	**Default**	**Information**	**Limits**
On Time	**12 seconds**	The wash action (motor "On" Time). Gentle wash action : 3 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Off Time	**3 seconds**	The wash action (motor "Off" Time). Gentle wash action : 12 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Time	**7.0 minutes**	The programmed time = time needed to decrease the water temperature. Once the programmed temperature has been reached, the next Sequence will be started. (for 0 Minutes the Prewash sequence will be skipped) (programmable in steps of 0.5 Minutes) **NOTE: If a short time is programmed, the water temperature will decrease fast.** **NOTE: Recommendation! Program 1 minute for each 37.4 °F [3 °C] temperature drop. Example : For a hot wash of 194 °F [90 °C] and a Cooldown Sequence of 140 °F [60 °C] a time of about 86 °F/37.4 °F [30 °C/3 °C] = 10 Minutes should be programmed for the Cooldown Sequence.**	0 - 99.5 minutes
Pause	**No**	When a signal Pause is programmed, a pause will be introduced at the end of the Wash Step. This allows the operator to add soap for the next step. A buzzer signal warns the operator that the cycle has been interrupted.	No / Yes

Table 19

The Rinse Sequence

- Prewash
- Wash
- Cooldown
- **Rinse**
- Final Rinse
- Soak
- Spray
- No wash
- No temperature can be programmed as a Rinse is only dedicated for cold water.

The Rinse Sequence			
Display Message	**Default**	**Information**	**Limits**
Inlet	**I1-I2-I7**	3 Inlets can be programmed. The suggested inlet valves are related to the temperature and the soap box to be used. **NOTE: If you insert other inlet valves than the suggested ones, problems can occur at the water fill process.**	I1,2,3,4,7
Level	**Normal High**	The suggested water level depends on the machine Type.	Refer to *Table 5*
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Detergents Menu… **Supply 1, …, 8**	**0 seconds**	Time selection for Soap Boxes (hopper) and external liquid soap supplies. You can program up to 4 supplies at the same time. If you have programmed more then 4 supplies an error message will be generated. Put the time of the supplies back to zero until not more than 4 non-zero time values are remaining. (liquid soap supplies must be switched on at the configuration menu) .	0 - 99 seconds
On Time	**12 seconds**	The wash action (motor "On" Time). Gentle wash action : 3 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Off Time	**3 seconds**	The wash action (motor "Off" Time). Gentle wash action : 12 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Time	**2.0 minutes**	The Rinse Sequence Time. (for 0 Minutes the Rinse sequence will be skipped) (programmable in steps of 0.5 Minutes)	0 - 99.5 minutes
Pause	**No**	When a signal Pause is programmed, a pause will be introduced at the end of the Wash Step. This allows the operator to add soap for the next step. A buzzer signal warns the operator that the cycle has been interrupted.	No / Yes

Table 20

The Final Rinse Sequence

- Prewash
- Wash
- Cooldown
- Rinse
- **Final Rinse**
- Soak
- Spray
- No wash
- No temperature can be programmed as a Last Rinse is only dedicated for cold (hard) water.

The Final Rinse Sequence			
Display Message	**Default**	**Information**	**Limits**
Inlet	**I4-I7** (3 inlets) **I4** (2 inlets)	3 Inlets can be programmed. The suggested inlet valves are related to the temperature and the soap box to be used. **NOTE: If you insert other inlet valves than the suggested ones, problems can occur at the water fill process.**	I1,2,3,4,7
Level	**Normal High**	The suggested water level depends on the machine Type.	Refer to *Table 5*
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Detergents Menu… **Supply 1, …, 8**	**0 seconds**	Time selection for external liquid soap supplies. You can program up to 4 supplies at the same time. If you have programmed more then 4 supplies an error message will be generated. Put the time of the supplies back to zero until not more than 4 non-zero time values are remaining. (liquid soap supplies must be switched on at the configuration menu) .	0 - 99 seconds
On Time	**12 seconds**	The wash action (motor "On" Time). Gentle wash action : 3 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Off Time	**3 seconds**	The wash action (motor "Off" Time). Gentle wash action : 12 seconds. (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Time	**2.0 minutes**	The Final Rinse Sequence Time. (for 0 Minutes the Final Rinse sequence will be skipped) (programmable in steps of 0.5 Minutes)	0 - 99.5 minutes
Pause	**No**	When a signal Pause is programmed, a pause will be introduced at the end of the Wash Step. This allows the operator to add soap for the next step. A buzzer signal warns the operator that the cycle has been interrupted.	No / Yes

Table 21

The Soak Sequence

- Prewash
- Wash
- Cooldown
- Rinse
- Final Rinse
- **Soak**
- Spray
- No wash

The Soak Sequence			
Display Message	**Default**	**Information**	**Limits**
Temperature	**104° F [40° C]**	The water temperature.	33.8 - 113°F [1 - 45° C]
Inlet	**I1-I7**	The suggested inlet valves are related to the temperature and the soap box to be used. **NOTE: If you insert other inlet valves than the suggested ones, problems can occur at the water fill process.**	I1...I8
Level	**Normal Low**	The suggested water level depends on the machine Type.	Refer to *Table 5*
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Detergents Menu… **Supply 1, …, 8**	**0 seconds**	Time selection for Soap Boxes (hopper) and external liquid soap supplies. You can program up to 4 supplies at the same time. If you have programmed more then 4 supplies an error message will be generated. Put the time of the supplies back to zero until not more than 4 non-zero time values are remaining. (liquid soap supplies must be switched on at the configuration menu) .	0 - 99 seconds
On Time	**12 seconds**	The wash action (motor "On" Time). (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Off Time	**10 minutes**	The wash action (motor "Off" Time). (The suggested default values can be adjusted at the Initialization menu)	1 - 99 minutes
Time	**1.0 Hour**	The Soak Sequence Time. (for 0 Hour the Soak sequence will be skipped) (programmable in steps of 0.1 Hour)	0 - 25.5 Hour
Pause	**No**	When a signal Pause is programmed, a pause will be introduced at the end of the Wash Step. This allows the operator to add soap for the next step. A buzzer signal warns the operator that the cycle has been interrupted.	No / Yes

Table 22

The Spray Sequence

- Prewash
- Wash
- Cooldown
- Rinse
- Final Rinse
- Soak

- **Spray**
- No wash
- Water or Liquid is injected at Distribution or Low Spin Speed .
- No standard water inlets can be programmed in this function.
- The liquid will be injected based on soap supply programming.

The Spray Sequence			
Display Message	**Default**	**Information**	**Limits**
RPM	-	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Drain Valve	**1**	Only available on washing machines with both : a normal Open and normal Closed Drain valve.	1 - 2
Detergents Menu… **Supply 1, …, 8**	**0 seconds**	Time selection for Soap Boxes (hopper) and external liquid soap supplies. The Spray sequence only functions with 1 Supply. If you have programmed more then 1 supply an error message will be generated. Put the time of the supplies back to zero until not more than 1 non-zero time value is remaining. If No supply has been programmed: the Spray sequence will be skipped. (Liquid soap supplies must be switched on at the configuration menu).	0 - 99 seconds
Pause	**No**	When a signal Pause is programmed, a pause will be introduced at the end of the Wash Step. This allows the operator to add soap for the next step. A buzzer signal warns the operator that the cycle has been interrupted.	No / Yes

Table 23

The No Wash Sequence

- Prewash
- Wash
- Cooldown
- Rinse
- Final Rinse
- Soak
- Spray
- **No wash**

In case of a No Wash Sequence, the wash function of the programmed step is skipped. Go to *Step 5: Programming the Drain Step*.

Step 5: Programming the Drain Step

This paragraph gives a detailed explanation about programming the Drain/Extraction Sequences.

After programming the wash step, the drain/extraction step still has to be programmed.

NOTE: You don't have to program a drain sequence before an extraction sequence as the water will automatically be drained at the extraction sequence.

The Drain Sequence

- **Drain**

Selecting the Drain / Extraction Step

Depending on the machine type, you have more or less functions.

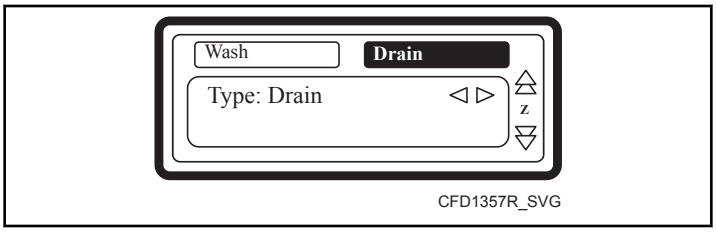


Figure 20

- For a new step, the first sequence that is displayed is the Drain sequence (default).
- Select the desired Drain step sequence from the list by pressing the buttons LEFT or RIGHT .
- Press the ENTER button to confirm your selection.
- You can also use the ARROW DOWN button if you accept the pre-programmed default value.

- Extract

- No Drain
- Static Drain
- Reversing Drain

The Drain Sequence			
Display Message	**Default**	**Information**	**Limits**
Drain Valve	**1**	Only available on washing machines with both: a normal Open and normal Closed Drain valve.	1 - 2
Time	**0.5 minutes**	The Drain Sequence Time. (for 0 Minutes the Drain sequence will be skipped) (programmable in steps of 0.5 Minutes)	0 - 15.0 minutes
Exit		Return to Edit Program Menu.	

Table 24

The Extract Sequence

- Drain
- **Extract**
- No Drain
- Static Drain
- Reversing Drain

The Extract Sequence			
Display Message	**Default**	**Information**	**Limits**
Drain Valve	**1**	Only available on washing machines with both : a normal Open and normal Closed Drain valve.	1 - 2
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Time	**9 minutes**	The Extract Sequence Time. (for 0 Minutes the Extract sequence will be skipped) (programmable in steps of 0.5 Minutes)	0 - 15.0 minutes
Exit		Return to Edit Program Menu.	

Table 25

The No Drain Sequence

- Drain
- Extract
- **No Drain**
- Static Drain
- Reversing Drain

The Drain/Extraction part of the programmed step is skipped.

WARNING

For some specific functions "No Drain" must be programmed. Example: If you want to program a cool-down sequence, then "No Drain" must be programmed between the hot wash and the cooldown sequence.

C050

The No Drain Sequence			
Display Message	**Default**	**Information**	**Limits**
Exit		Return to Edit Program Menu.	

Table 26

The Static Drain Sequence

- Drain
- Extract
- No Drain
- **Static Drain**
- Reversing Drain

The drum is at standstill while the water is drained.

The Static Drain Sequence			
Display Message	**Default**	**Information**	**Limits**
Drain Valve	**1**	Only available on washing machines with both : a normal Open and normal Closed Drain valve.	1 - 2
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
Time	**0.5 minutes**	The Static Drain Sequence Time.. (for 0 Minutes the Static Drain sequence will be skipped) (programmable in steps of 0.5 Minutes)	0 - 15.0 minutes
Exit		Return to Edit Program Menu.	

Table 27

WARNING

It's not recommended to program a spin sequence just after a static drain sequence. At a static drain sequence, the garments are not distributed around the drum while the water is drained. When the spin sequence starts, the garments are a big imbalance and the imbalance (tilt) function will be activated.

C051

The Reversing Drain Sequence

- Drain
- Extract
- No Drain
- Static Drain
- **Reversing Drain**

The drum is reversing while the water is drained.

The Reversing Drain Sequence			
Display Message	**Default**	**Information**	**Limits**
Drain Valve	**1**	Only available on washing machines with both : a normal Open and normal Closed Drain valve.	1 - 2
RPM	**-**	The suggested RPM depends on the machine Type.	Refer to *Table 6*
On Time	**12 seconds**	The mechanical action (motor "On" Time). (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Off Time	**3 seconds**	The mechanical action (motor "Off" Time). (The suggested default values can be adjusted at the Initialization menu)	1 - 99 seconds
Time	**0.5 minutes**	The Static Drain Sequence Time. (for 0 Minutes the Static Drain sequence will be skipped) (programmable in steps of 0.5 Minutes)	0 - 15.0 minutes
Exit		Return to Edit Program Menu.	

Table 28

Operation Menu

Starting Up

WARNING

Before starting up the first time, be sure that the machine is well installed. Refer to the Installation/Operation/Maintenance manual. Make sure that the configuration and initialization menu have the correct settings.

C063

Switching On the Power

The display lights up when you switch on the power.

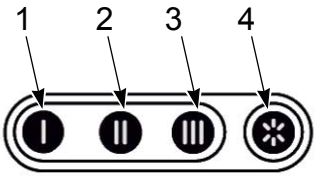
- If the machine is ready to be started, the program overview is shown.

Load the Washing Machine

- Open the door and load the laundry into the drum. When the drum is loaded, close the door.

Put Soap into the Soap Dispenser

Put the correct amount of soap into the soap dispenser.



CHM2462N_SVG

1. Detergent for the pre-wash
2. Detergent for the main wash
3. Liquid detergent for the main wash or liquid bleach, etc.
4. Liquid fabric softener or liquid starch for the last rinse

Figure 21

At the wash sequence, it depends of the pre-programmed water inlets in which the soap dispenser you have to add soap.

Refer to section *The Creation of a Wash Program* for more information.

Starting a Wash Program

1. Use the navigation buttons UP and DOWN and choose the required program.
2. Press the CONFIRM SELECTION button. If any of the special functions is activated, the screen for activation of the selected function is shown. Use the ADDITIONAL FUNCTION SELECTION button and carry out the setting. End the process of selecting function by using the CONFIRM SELECTION button.
3. Start the program by pressing the START button. If it is a machine with coin selector, make the payment first.

NOTE: Applicable to machines with a coin selector: selection of a new program when the machine is ready to start operation.

If the newly selected program is more expensive:

- The price difference is shown on the display.
- It is now necessary to insert more coins so that the price difference between the old and new program is settled.

Selection of a New Program after the Original Program Has Started

- It sometimes happens that you press the START button before you select the correct program number. This is not a problem. You can still select a different program number.
- Use the navigation buttons UP and DOWN to choose the required program.

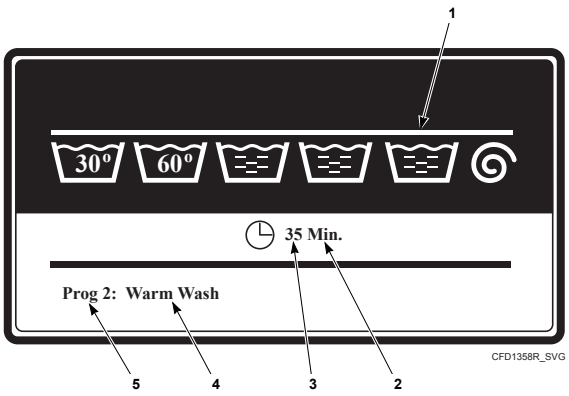
NOTE: The time for selecting new program is limited.

- OPL machines: Switching over to a different program can only be done within the first step.
- Vended machines: The program selection change can be done within the first 150 seconds.

The program might require the insertion of more coins. If you do not insert the required coins, the program returns to the program number which was selected when the START button was pressed.

The Active Program

- The cycle time will decrease minute by minute and gives you an indication how long it will take before the cycle is finished.
- A Progression bar shows the progression of the wash cycle and the active wash step.



1. Progression bar
2. Time unit
3. Remaining time wash program
4. Wash program name
5. Program number

Figure 22

Advancing a Wash Program

If the Advancing a wash program function is enabled (item Allow Advance in the Initialization menu):

- Press the START button to skip a particular step.

If the Advancing a wash program function is disabled:

- Switch into the SERVICE INFORMATION to skip a wash program step. Refer to *How to Get into the Setup Mode* .

Wash Time

- Once the program has been started, the remaining cycle time is displayed.
- The clock symbol indicates whether the time of the running cycle is being counted down or not. If the clock symbol is not flashing, it means that the cycle time is not being counted down.
- The time for which the symbol is not flashing is the extra time.
- The total wash time = programmed time (1) + the extra time (2+3+4+5).
  1. The programmed time of the processes.
  2. The extra time for taking water.
  3. The extra time for draining (if the water is not drained in 30 sec and the extended drain time is started)
  4. The extra time for heating if "Wait for temperature" is selected.
  5. The extra free run time at the end of the spin sequence.
- The display of remaining cycle time can be disabled in Payment menu – item “Show Prog Time”.

Program End

- The time on the display counts down until 0.
- At the end of the cycle, the door lock is released, the display shows the UNLOAD message and it is possible to open the door (unload the laundry).

Open the door and unload the machine.

- The Message UNLOAD will be erased and the machine is ready to start a new program.
- The program overview is shown.

Water Fill Process

- Depending on the water temperature the cold and hot inlet valves will be opened.
- The water level is measured by an electronic water level sensor.
- If the Temperature Balance function is enabled, the Wash Computer will control the water temperature until the target temperature is reached. For Hot wash programs, extra heating will be required after the fill process to reach the programmed hot water temperature.
- In the standard wash tables you will find a Normal Low and Normal High water level.
- These are the standard water levels :
  - The Normal Low water level is used for the Prewash, Wash and Soak sequence.
  - The Normal High water level is used for the Rinse and Final Rinse sequence.
- The water level can only be programmed between two limits:
  - The lower limit is above the heating elements and the temperature sensor.
  - The upper limit is in the middle of the wash drum.

Heating Process

When "No Wait for Temperature" (No Wait for Heat) is selected:

- The machine will heat until the time of the specific wash step is over or if the programmed temperature was reached.
- Even if the programmed temperature is not reached, the program will start the next sequence if the time of the sequence is over.

When "Wait for Temperature" (Wait for Heat) is selected:

- The machine will heat until the programmed temperature is reached. The programmed time of the wash sequence will only start counting down from the moment that the target temperature was reached.

WARNING

When the machines do not have electrical or steam heating no "Wait for temperature" should be selected in the Initialization Menu.

C068

Cooldown Function

Automatic Cooldown

- This function avoids thermal shock in the washing machine.
- For Hot washes above 149°F [65°C], Cold water is added at the end of the step.

Programmed Cooldown

- This function is recommended to avoid the shrinking of the garments.
- Water is drained and cold water is added bit by bit. The temperature of the water in the tub will decrease slowly as a function of the programmed Cooldown Sequence (temperature and time).

Spray Function

- The special product is injected while the drain valve is open and depending the programmed speed, the drum will spin at distribution or low spin speed.

Unbalance

- When the machine is badly loaded during the spin sequence, then the safety switch or the overweight detection system will get activated.
- The spin sequence will be interrupted and the garments in the drum will be redistributed.
- The washing machine will try up to 5 times to redistribute the garments.

Adding Detergents

- When a signal Pause has been programmed, at the end of a wash sequence, the machine will stop the Program and the message "Pause, Press Start to Continue" will be displayed.
- The buzzer will give a warning for the operator.
- Now the operator can add Soap.
- By pressing the START button the PROGRAM will go on with the next Program step.

Wait State

- It can occur that the normal machine operation has been interrupted and that you have to wait until the Wash Computer allows you to go on.
- You can recognize the wait state by a display that shows WAIT and a decreasing counter.
- This will occur when the power has been switched off and on at a running wash cycle.
- As the software doesn‘t know how fast the motor was spinning, a delay time is respected before the machine can be restarted.

How to Handle Failure Messages

- When a failure has been detected by the Wash Computer, a failure message is generated to inform the operator about the problem.

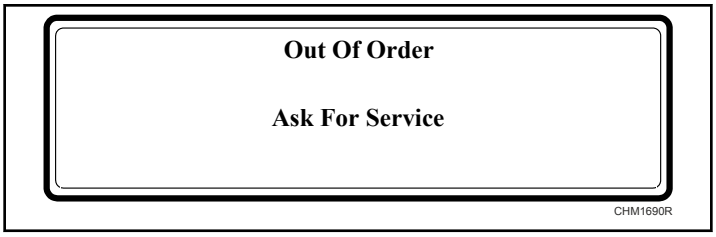


Figure 23

- At the upper line, the program number and step number of the interrupted program are displayed.
- The message UNLOAD! will inform you if it‘s allowed to open the door.

Safety Conditions

- If there is still water in the drum or if the temperature is too high, it‘s not possible to open the door.
- The messages "WATER IN CAGE" or "TOO HOT" will be displayed together with the level and the temperature.

WARNING

It’s up to the operator to take the necessary precautions if the drain valve is not functional and there is still hot water in the tub at the end of the wash cycle. On the display the actual water temperature and level will be displayed. Wait until the water is drained and until the water has cooled before all interventions as hot water can cause burns.

C069

- If something goes wrong with the door lock, the program will be finished immediately.
- For safety purposes, the door will stay locked.

WARNING

Go to the chapter Troubleshooting to find out more about error handling.

C070

How to Handle Power Interruptions

Refer to Installation/Operation/Maintenance manual.

Information Button

Information Button

OPL machines:

1. Press the Information button and the information on the selected program is displayed.
   a. A detailed overview of program steps is shown.
   b. At each step, all its details are shown.
2. Press the Information button to leave the Information Menu.

Vended machines:

1. Press the Information button and the navigation information for machine operation is shown.

Special Functions

Service Information

Move into the SERVICE INFORMATION if you want to inspect the actual water temperature and level. Refer to *How to Get into the Setup Mode* .

- At the Service Information you can inspect:
  - The water temperature and water level.
  - The number of cycles that have been accumulated (service due).
  - The actual wash machine states at the running wash cycle.
- By pressing the ARROW DOWN button you will see all the menu items.

Program or Coin Selector Counter

1. Move to the SERVICE INFORMATION. Refer to *How to Get into the Setup Mode* .
2. Press the navigation arrow DOWN to move into the screen with counters.

- Vended machines: The coin selector counter is shown.
- OPL machines: The program counter is shown.

Resetting the Counters to Zero:

The service cycle counter can be reset to zero in the Service Menu / Tools / Resetting the cycle counter. To reset the coin selector counter, press the hidden navigation button RIGHT three times.

External Liquid Soap Boxes

- If the washing machine is connected with external soap pumps, a signal from the soap supply reservoir can be connected to the washing machine computer.
- If the Soap box is almost empty, then the diagnostic message "Err 39 out of soap" will be shown on the display of the Wash Computer.
- So the operator does not have to check the soap supply reservoirs continuously to avoid washing without soap.

Pre-programmed Programs

The Wash Computer contains 15 pre-programmed Standard Wash Programs.

WARNING

The pre-programmed processes are given as an example only. For the creation of your own wash programs, contact your soap supplier.

C074

Water Inlets (Valves) Information

Water Valves			
Inlet Valve 1:	Cold Soft Water	Soap Dispenser Compartment "I"	Pre wash
Inlet Valve 2:	Cold Soft Water	Soap Dispenser Compartment "II"	Wash - detergent
Inlet Valve 3:	Cold Soft Water	Soap Dispenser Compartment "III"	Wash - liquid
Inlet Valve 4:	Cold Hard Water	Soap Dispenser Compartment "Fabric softener"	Last rinse
Inlet Valve 5:	Hot Soft Water	Soap Dispenser Compartment "I"	Pre wash
Inlet Valve 6:	Hot Soft Water	Soap Dispenser Compartment "II"	Wash - detergent
Inlet Valve 7:	Cold Hard Water	Direct Inlet	(External liquid soap)
Inlet Valve 8:	Hot Soft Water	Soap Dispenser Compartment "III"	Wash - liquid

Table 29

Cabinet Hardmount 52 kg / 120 lb /520 L Water Valves			
Inlet Valve 1:	Cold Hard Water	Direct Inlet	
Inlet Valve 2:	Cold Soft Water	Direct Inlet	
Inlet Valve 3:	Hot Soft Water	Direct Inlet	
Inlet Valve 4:	Cold Soft Water	Soap Dispenser Compartment "I"	Pre wash
Inlet Valve 5:	Cold Soft Water	Soap Dispenser Compartment "II"	Wash - detergent
Inlet Valve 6:	Cold Soft Water	Soap Dispenser Compartment "III"	Wash - liquid
Inlet Valve 7:	Cold Hard Water	Soap Dispenser Compartment "Fabric softener"	Last rinse
Inlet Valve 8:	Hot Soft Water	Soap Dispenser Compartment "I"	Pre wash

Table 30

Wash Program Legend Water Levels

- NL: Normal Low level
- NH: Normal High level
- EL: Economic Low level
- EH: Economic High level

Wash Actions

Normal Wash Action

- A = 12 seconds, 12 seconds Action
- R = 3 seconds, 3 seconds Rest

Gentle Wash Action

- A = 3 seconds, 3 seconds Action
- R = 12 seconds, 12 seconds Rest

RPM (Revolutions per Minute)

- W: Washing Speed (32 - 50 RPM)
- D: Distribution Speed (not changeable) (100 RPM)
- L: Low extraction speed, standard (400 RPM)
- H: High extraction speed (625 - 1165 RPM) (depending on the machine capacity)

Wash Programs

FOR THREE WATER TYPES: COLD SOFT, COLD HARD, HOT

NOTE: Wash programs for two water types (cold and hot) are the same as the programs for three water types. The only difference being that the inlet valve (7) isn´t used.

NOTE: * Applies to the Cabinet Hardmount 52 kg / 120 lb / 520 L machine for three water types. Cabinet Hardmount 52 kg / 120 lb / 520 L machine two water types - during the final rinse sequence, the valves 2-7 are used instead of valves 1-7.

Hot Wash Intensive 194°F [90°C]

Wash Program 1: Hot Wash Intensive 194°F [90°C]							
	Sequence	**Inlet**	**Temperature**	**Level**	**Time**	**R.P.M (x)**	**Soap Supply**
Step 1	Prewash / wash	1-5-7 2-3-4-8*	86°F [30°C]	NH	5 minutes	W (normal)	1=30 seconds
	Spin	-	-	-	1 minute	L	-
Step 2	Main wash	1-2-3-5-6-8 2-3-5*	194°F [90°C]	NH	10 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	30 seconds	D	
Step 3	Rinse 1	1-2-7 2*	-	NH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 4	Rinse 2	1-2-7 2*	-	NH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 5	Rinse 3	1-4-7 1-7*	-	NL	4 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models without pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-

Table 31

Warm Wash Intensive 140°F [60°C]

Wash Program 2: Warm Wash Intensive 140°F [60°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
Step 1	Prewash / wash	1-5-7 2-3-4-8*	86°F [30°C]	NH	5 minutes	W (normal)	1=30 seconds
	Spin	-	-	-	1 minute	L	-
Step 2	Main wash	1-2-3-5-6-8 2-3-5*	140°F [60°C]	NH	10 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	30 seconds	D	
Step 3	Rinse 1	1-2-7 2*	-	NH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 4	Rinse 2	1-2-7 2*	-	NH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 5	Rinse 3	1-4-7 1-7*	-	NL	4 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-

Table 32

Colored Wash Intensive 104°F [40°C]

Wash Program 3: Colored Wash Intensive 104°F [40°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
Step 1	Prewash / wash	1-5-7 2-3-4-8*	86°F [30°C]	NH	5 minutes	W (normal)	1=30 seconds
	Spin	-	-	-	1 minute	L	-
Step 2	Main wash	1-2-3-5-6-8 2-3-5*	104°F [40°C]	NH	10 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	30 seconds	D	
Step 3	Rinse 1	1-2-7 2*	-	NH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 4	Rinse 2	1-2-7 2*	-	NH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 5	Rinse 3	1-4-7 1-7*	-	NL	4 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-

Table 33

Bright Wash Intensive 86°F [30°C]

Wash Program 4: Bright Wash Intensive 86°F [30°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No Prewash							

Table 34 *continues...*

Wash Program 4: Bright Wash Intensive 86°F [30°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	86°F [30°C]	NH	10 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	30 seconds	D	
Step 2	Rinse 1	1-2-7 2*	-	NH	4 minutes	W (normal)	-
	Drain	-	-	-	1 minute	D	-
Step 3	Rinse 2	1-2-7 2*	-	NH	4 minutes	W (normal)	-
	Drain	-	-	-	1 minute	D	-
Step 4	Rinse 3	1-4-7 1-7*	-	NL	4 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-

Table 34

Woolens 59°F [15°C]

Wash Program 5: Woolens 59°F [15°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No prewash							
Step 1	Main wash	1-2-3-5 2-5*	59°F [15°C]	NH	6 minutes	W (gentle)	2=30 seconds
	Drain	-	-	-	30 seconds	D	

Table 35 *continues...*

Wash Program 5: Woolens 59°F [15°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
Step 2	Rinse 1	1-2-7 2*	-	NH	2 minutes	W (gentle)	-
	Drain	-	-	-	30 seconds	D	-
Step 3	Rinse 2	1-2-7 2*	-	NH	2 minutes	W (gentle)	-
	Drain	-	-	-	30 seconds	D	-
Step 4	Rinse 3	1-4-7 1-7*	-	NL	3 minutes	W (gentle)	3=30 seconds
	Final spin/Spin	-	-	-	2.5 minutes	L	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (gentle)	-

Table 35

Hot Wash 194°F [90°C]

Wash Program 6: Hot Wash 194°F [90°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No prewash							
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	194°F [90°C]	NL	20 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	30 seconds	D	
Step 2	Rinse 1	1-2-7 2*	-	EH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-

Table 36 *continues...*

Wash Program 6: Hot Wash 194°F [90°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
Step 3	Rinse 2	1-2-7 2*	-	EH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 4	Rinse 3	1-4-7 1-7*	-	EH	6 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-

Table 36

Warm Wash 140°F [60°C]

Wash Program 7: Warm Wash 140°F [60°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No prewash							
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	140°F [60°C]	NL	20 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	30 seconds	D	
Step 2	Rinse 1	1-2-7 2*	-	EH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 3	Rinse 2	1-2-7 2*	-	EH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-

Table 37 *continues...*

Wash Program 7: Warm Wash 140°F [60°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
Step 4	Rinse 3	1-4-7 1-7*	-	EH	6 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-

Table 37

Colored Wash 104°F [40°C]

Wash Program 8: Colored Wash 104°F [40°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap sup-ply**
No Prewash							
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	104°F [40°C]	NL	20 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	30 seconds	D	
Step 2	Rinse 1	1-2-7 2*	-	EH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 3	Rinse 2	1-2-7 2*	-	EH	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 4	Rinse 3	1-4-7 1-7*	-	EH	6 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-

Table 38 *continues...*

Wash Program 8: Colored Wash 104°F [40°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap sup-ply**
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5seconds / 5 seconds)	-

Table 38

Bright Wash 86°F [30°C]

Wash Program 9: Bright Wash 86°F [30°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No Prewash							
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	86°F [30°C]	NL	20 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	30 seconds	D	
Step 2	Rinse 1	1-2-7 2*	-	EH	4 minutes	W (normal)	-
	Drain	-	-	-	1 minute	D	-
Step 3	Rinse 2	1-2-7 2*	-	EH	4 minutes	W (normal)	-
	Drain	-	-	-	1 minute	D	-
Step 4	Rinse 3	1-4-7 1-7*	-	EH	6 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-

Table 39 *continues...*

Wash Program 9: Bright Wash 86°F [30°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-

Table 39

Eco Hot Wash 194°F [90°C]

Wash Program 10: Eco Hot Wash 194°F [90°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No Prewash							
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	185°F [85°C]	EH	14 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	1 minute	L	
Step 2	Rinse 1	1-2-7 2*	-	EL	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 3	Rinse 2	1-4-7 1-7*	-	EL(1)	4 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-
1) EH – Cabinet Freestanding 10.5 kg / 25 lb / 105 L models, Cabinet Hardmount 10.5 kg / 25 lb / 105 L (G-factor 200) models							

Table 40

Eco Warm Wash 140°F [60°C]

Wash Program 11: Eco Warm Wash 140°F [60°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No Prewash							
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	131°F [55°C]	EH	14 minutes	W (normal)	2=30 seconds
	Spin	-	-	-	1 minute	L	
Step 2	Rinse 1	1-2-7 2*	-	EL	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 3	Rinse 2	1-4-7 1-7*	-	EL(1)	4 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-
(1) EH – Cabinet Freestanding 10.5 kg / 25 lb / 105 L models, Cabinet Hardmount 10.5 kg / 25 lb / 105 L (G-factor 200) models							

Table 41

Eco Color Wash 104°F [40°C]

Wash Program 12: Eco Color Wash 104°F [40°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No Prewash							
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	104°F [40°C]	EH	14 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	1 minute	L	

Table 42 *continues...*

Wash Program 12: Eco Color Wash 104°F [40°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
Step 2	Rinse 1	1-2-7 2*	-	EL	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	L	-
Step 3	Rinse 2	1-4-7 1-7*	-	EL(1)	4 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-
(1) EH – Cabinet Freestanding 10.5 kg / 25 lb / 105 L models, Cabinet Hardmount 10.5 kg / 25 lb / 105 L (G-factor 200) models							

Table 42

Eco Bright Wash 86°F [30°C]

Wash Program 13: Eco Bright Wash 86°F [30°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
No Prewash							
Step 1	Main wash	1-2-3-5-6-8 2-3-5*	86°F [30°C]	EH	14 minutes	W (normal)	2=30 seconds
	Drain	-	-	-	1 minute	D	
Step 2	Rinse 1	1-2-7 2*	-	EL	4 minutes	W (normal)	-
	Spin	-	-	-	1 minute	D	-
Step 3	Rinse 2	1-4-7 1-7*	-	EL(1)	4 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	9 minutes	H	-

Table 43 *continues...*

Wash Program 13: Eco Bright Wash 86°F [30°C]							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (5 seconds / 5 seconds)	-
(1) EH – Cabinet Freestanding 10.5 kg / 25 lb / 105 L models, Cabinet Hardmount 10.5 kg / 25 lb / 105 L (G-factor 200) models							

Table 43

Extraction - Low Speed

Wash Program 14: Extraction - Low Speed							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap sup-ply**
Step 1	Rinse	1-4-7 1-7*	-	NH	3 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	5.5 minutes	L	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (normal)	-

Table 44

Extraction - High Speed

Wash Program 15: Extraction - High Speed							
	Sequence	**Inlet**	**Tempera-ture**	**Level**	**Time**	**R.P.M (x)**	**Soap Sup-ply**
Step 1	Rinse	1-4-7 1-7*	-	NH	3 minutes	W (normal)	3=30 seconds
	Final spin/Spin	-	-	-	12 minutes	H	-
	Slowdown	-	-	-	N/A	-	-
	Tumble	-	-	-	30 seconds (Models with-out pump drain) 5 minutes (Models with pump drain)	W (normal)	-

Table 45

Troubleshooting

Display Messages

- Various messages may appear on the display at the start, during or at the end of a washing cycle.
- In some specific cases, an acoustic signal will alert the operator.
- When an error occurs the machine will automatically go over to a safe state. With the diagnostic program you can determine the problem. This program will test the individual functions of the washing machine one by one.

Fault Messages

- If a failure occurs the computer will display a diagnostic error message.
- The program number and step at which the interruption has occurred are displayed.
- The fault message itself contains a number and a corresponding text label by which it's easy to find the related information in the manual.
- If UNLOAD is displayed, the door can be opened.

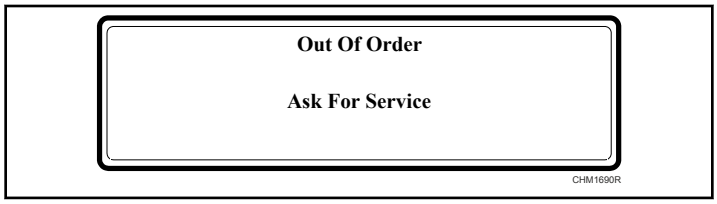


Figure 24

How to Handle Fault Messages

WARNING

Check in the manual to see what problem the error message corresponds with. Ask the assistance of an experienced technician to solve the problem. All the safety precautions must be followed before each intervention.

C075

You can overrule and erase fault messages by:

- Pressing the INFORMATION button.
- Pressing the STOP or START button.
- Switching the power off/on.
- Opening the door (fault 4 and 41).

For safety reasons the door will not be unlocked if:

- There is still water in the drum.
- The water temperature is above 131°F [55°C].
- The drum is still turning (a safety time will be respected until the drum comes to a standstill).
- There is a problem with the door lock system.

Each time at the end of the cycle, the Wash computer will fulfill a safety test sequence.

If at the end of the cycle the safety conditions are not fulfilled, the messages "TOO HOT" or "WATER IN CAGE" will be displayed.

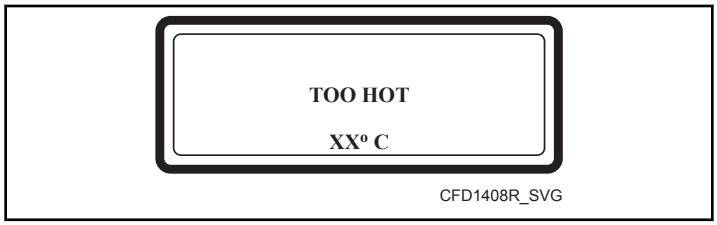


Figure 25

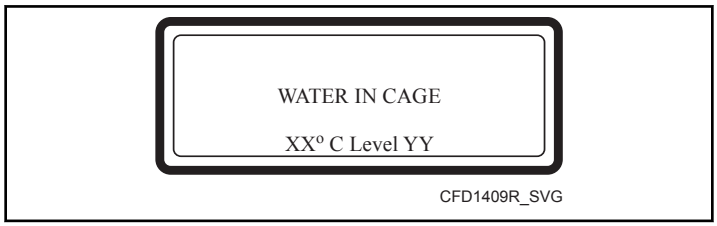


Figure 26

If the problem disappears (the water has dropped below the safety level for spin or the water temperature has dropped below 131°F [55°C]) the Error message "TOO HOT" or "WATER IN CAGE" will disappear automatically.

WARNING

It's up to the operator to take the necessary precautions if the drain valve is not functional and if there is still hot water in the tub at the end of the wash cycle. On the display the actual water temperature and level will be displayed. Wait until the water is drained and until the water has cooled before all interventions as hot water can cause severe burns. Care must be taken that nobody gets burned due to hot water.

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NOTE: The error message "Too Hot" can also appear at the end of a cycle even if no failure has occurred as an example, suppose a wash program with a hot wash. After this hot wash sequence, no sequence with a low water temperature has been programmed. At the end of such a wash cycle, the temperature in the tub will stay high even if there is no water in the tub. As a result the wash computer will decide that it's not safe to open the door as the measured temperature inside the tub is too high. Without inserting cold water inside the tub, it can take a long time before the temperature drops to an acceptable safe level. Once the temperature in the drum has dropped sufficiently, the failure message will disappear and the door will be unlocked automatically.

DEPENDING ON THE FAILURE TYPE THE COMPUTER WILL START A SPECIFIC PROCEDURE:

WHEN SAFETY IS INVOLVED

- Full stop + tumble: the program is stopped but will run the tumble sequence.
- Full stop + safety time: the program is stopped and a safety time is started.
- Don't start: the program will not be started as long as the safety conditions are not fulfilled.

WHEN SAFETY IS NOT INVOLVED

- Full stop + request for continue: a request to "Continue ?" the program is displayed.
- Skip + continue: the actual cycle step is skipped and the program continues with the next step.
- Continue: the program continues.

SPECIAL CASES:

Fault 11: Fill Time Failure and Fault 14: Heating Time Failure:

- After overruling and erasing the failure message, you can restart or stop the sequence, as Continue ? will be displayed.

Possible cause:

- Water supply inlets closed.
- Decreasing capacity of the heating elements.

Fault 31: Initialization Fault Inverter and Fault 32: Verification Fault Inverter:

- Indicate that the frequency inverter is not loaded with the correct parameter settings, the washing machine can be damaged when the inverter is functioning with the wrong settings. Do not use the washing machine before a technician has inspected the problem.

Fault 41: Service Due:

- Will occur over and over again until you have reset the cycle counter. Refer to *Service Menu* as to how to reset the cycle counter.

Failure Message Overview

Failure Message Overview				
Number	**Failure Message**	**Failure**	**Action**	**Fault Occurrence**
E2	No Drain	Drain failure	Full Stop + tumble	Draining sequence
E3	Tilt Fault	Safety switch activated	Full stop + tumble	Whole cycle, revolutions under the distribution revolutions level.
E4	Imbalance	Safety switch activated during the transition from distribution into spin sequence.	Skip + continue	Spin
E5	Tilt High Sp	Out of balance : high spin	Full stop + safety time	>500 or 750 RPM
E6	Door Switch	Door switch failure	Full stop + safety time	Whole cycle
E7	Door Coil	Door lock failure	Full stop + safety time	Whole cycle
E8	Door Closed Start	Door close check at start failure	Don't start	At start up
E9	Door Unload	Door lock switch closed failure	Don't start	End cycle

Table 46 *continues...*

Failure Message Overview				
Number	**Failure Message**	**Failure**	**Action**	**Fault Occurrence**
E10	Temp. Not Reached	Target temp. not reachet	Full stop + tumble	Wash step
E11	No Fill	Fill failure	Full stop + request for Continue	While filling
E12	OverFill	Overfill failure	Full stop + tumble	While filling
E13	No Heating	Heating failure	Full stop + tumble	While heating
E14	Heat. Time	Heating time failure	Full stop + request for continue	While heating
E15	Too Hot	Too Hot	Full stop + tumble	While heating
E16	Coin blocking 1	Coin meter failure	/	Before start up
E17	Coin blocking 2	Coin meter failure	/	Before start up
E18	Door Lock Pre-test	Door check before start failure	Don´t start	Before start up
E19	Door Lock Start	Door check at start failure	Don´t start	At start up
E21	OverFlow	Overflow failure	Full stop + tumble	Wash step
E24	Level Sens	Defective level sensor	Continue + Don’t start	Before start up
E25	Temp Sensor	Defective temperature sensor	Continue + Don’t start	Before start up
E26	Mitsub. Code	Undefined frequency inverter error code	Full stop + tumble	Whole cycle
E27	Comm fault	Communication fault inverter	Full stop + safety time	Whole cycle
E28	THT time / E.OL	THT Time out / E.OL	Full stop + safety time	At spin sequence
E29	OV3 time / E.OP	OV3 Time out / E.OP	Full stop + safety time	At spin sequence
E31	Load Par	Initialization fault inverter	Don’t start	At initialization
E32	Verify Par	Verification fault inverter	Don’t start	At loading parameters
E35	Wrong Softw	Wrong software version	Don’t start	New software version
E36	Imbalance	Unbalance detection system activated.	Reduction of spinning sequence revolutions. For Information only.	Spinning sequence
E37	No Drain Spr	Drain failure at the Spray Sequence	Full stop + tumble	Spray Sequence
E39	Out of Soap	The Soap Supplies are running Out of Soap	For Information only	Wash step
E41	Service Due	Service Due Warning	For Information only Open door = reset	End cycle
E42	Connection	No Network Connection	For Information only	Data Transfer Networking
E43	Voltage Par	Wrong Voltage Range Selection	Make correct selection	Configuration menu

Table 46 *continues...*

Failure Message Overview				
Number	**Failure Message**	**Failure**	**Action**	**Fault Occurrence**
E44	Model Type	Incorrect selection of machine type	Make correct selection	Configuration menu
E45	Speed sensor	The drum rotation sensor is not working	Full stop + tumble	Before spin sequence
E77	Heating Time Out	Heating on Hold Signal Failure	Full stop + tumble	Wash step
E80	SoapTimeOut	On Hold Signal Failure Soap Dispensing System	Full stop + tumble	Whole cycle
E106	Calibration Error	Weighing system calibration error	The Ultrabalance weighing system was not calibrated before the first use	The Ultrabalance weighing system cannot be used
E107	Not Calibrated	The Ultrabalance weighing system was not calibrated before the first use	The Ultrabalance weighing system cannot be used	Before start
E300-E353	Mits Err	Specific Mitsubishi Inverter Alarm	Full stop + safety time	Whole cycle
E500-E526	Memory Err	Memory Error	Full stop + safety time	Any time
E560-E563	USB Errors	Errors in communication with USB flash disk	For Informatoion only	Only in Advanced menu Data Export/Import
E570-E571	Enh.Debit	Problem with card reader payment system	For Informatoion only	Whole cycle
E600-E628	Softw. Err	Software Error	Full stop + safety time	Any time

Table 46

Service Menu

In the Service menu you have some extra utilities:

- The Software Version Number.
- An overview of the 20 last failure messages.
- Statistics for 10 general error messages.
- An overview of the input states.
- Switching On the Inverter for a technical intervention.
- Reset Cycle Counter and Statistics Error Messages.

How to Get into the Service Menu

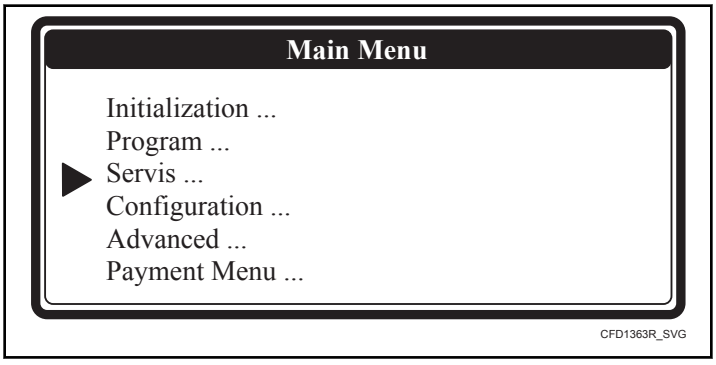

Figure 27

The SERVICE menu can only be accessed when the machine is in standby (the power is switched on, but no program is started).

- The program overview is shown.

- Turn the washing machine to the setup mode. Refer to *How to Get into the Setup Mode* .
- The Main menu is now available.
- Press the ARROW DOWN button to select the SERVICE menu.
- Press the ENTER button to make your selection.
- Now you will see the Service Menu Screen.

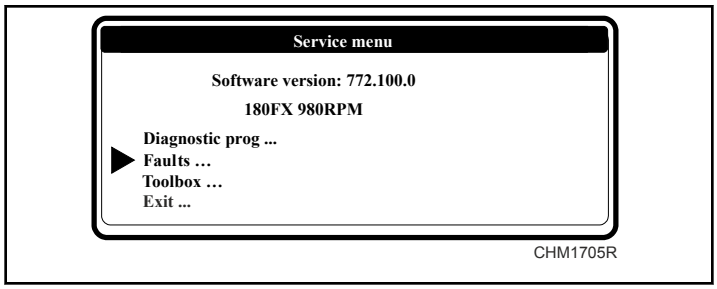

Figure 28

The software version will be displayed in the following format: "Software XXX Version: 772.100.0."

Faults Menu (Service Faults)

Faults Menu (Service Faults)	
Display Message	**Information**
View Fault Messages …	Check the last 20 fault messages from the Err log. (If no messages are displayed, this means that no Errors have occurred.) E XXX : The Error message number. YYYYYYYYYYY : The Error message name.
1 Fault 1: E XXX: YYYYYYYYYYY	Fault Nr. 1: the last occurred error message.
…	...
20 Fault: E XXX: YYYYYYYYYYY	Fault Nr. 20: the last - 20 occurred error message.
Erase Fault Messages No	The Error log is reset by erasing the Fault Messages.

Table 47 *continues...*

Faults Menu (Service Faults)	
Display Message	**Information**
View Fault Statist … **1 No Drain 0x** **…**	The Fault Statistics are an accumulation of Error messages that have appeared over a long period. With this information the technician has an indication on which parts an intervention should be needed. (the statistics are reset by the "Reset Service Counts" menu item in the toolbox menu) The List with Statistics : • No Drain : E2 + E37 • Door Switch : E6 + E7 + E8 + E9 • No Fill : E11 + E40 • No Heating : E13 + E14 • Temp Sensor : E25 • Level Sensor : E24 • Safety switch : E3 • Invert Com : E27 • Invert Alarm : E26 + E28 + E29 + E72 + E73 + E74 + E75 • Invert OV Alarm : E303 + E304 + E305

Table 47

Toolbox Menu

The purpose of the Toolbox Menu is to give support at technical interventions.

Toolbox Menu	
Display Message	**Information**
View Input States ? **1 Input 1 On** **…** **20 Input 20 Off**	The Input states for Input 1, …, Input 20. The exact function of the inputs can be found on the electrical drawing of the washing machine programmer. • If the Input state is Off, the Input signal is low. • If the input state is On, the Input signal is high.

Table 48 *continues...*

Toolbox Menu	
Display Message	**Information**
Imbalance Statistics … **Imbalance …** **1 ...0.5 0** **...** **31 > 15 0** **Current …** **1 I0 0** **...** **4 I3 0**	Diagnostic information on imbalance of the machine.
Inverter Power Off	By this function it‘s possible to switch on the power of the inverter if a technical intervention is needed. **NOTE: Special care has been taken at the initialization of the parameters of the frequency inverter. The manufacturer is not responsible for the wrong behavior of the washing machine if the owner has installed new parameter settings in the inverter that do not correspond with the original settings at the factory.**
Reset Service Counts No	Once the washing machine has reached the total number of wash cycles like set at the "Service Interval" a warning is given at the end of each cycle until the Cycle Counter has been reset.
RTC Time XX:YY:ZZ	The Time value of the Real Time Clock. XX : Hours, YY : Minutes, ZZ : Seconds
RTC Date AA:BB:CC	The Date value of the Real Time Clock. AA : Day, BB : Month, CC : Year
Adjust Clock … Hour XX Minutes YY Day AA Month BB Year CC	Set the correct Date and Time for the RTC.
Exit	Return to Service Menu

Table 48

Diagnostic Program

The purpose of the diagnostic program is to test the wash machine functions one by one.

How to Get into the Diagnostic Menu

The Diagnostic menu can only be accessed when the machine is in standby (the power is switched on, but no program is started).

- The program overview is shown.

- Turn the washing machine to the setup mode. Refer to section *How to Get into the Setup Mode* .
- The Main menu is now available.
- Press the ARROW DOWN button to select the Service menu.
- Select the Diagnostic Program menu at the Service menu.

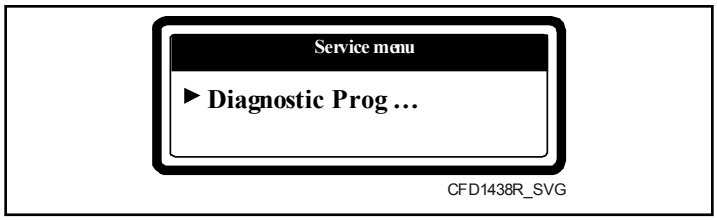

Figure 29

- Select diagnostic program.

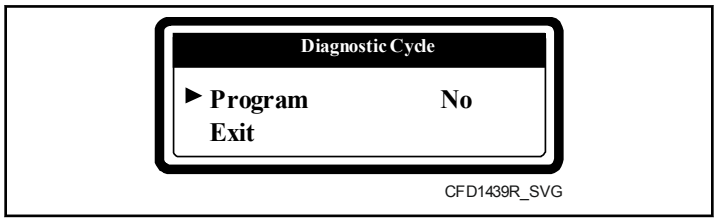

Figure 30

- Press START if you want to start the diagnostic program.

Test Sequence

- Display test and door lock test
- Sensor test
- Motor test
- Water fill, heating and drain test
- BASIC Diagnostic Wash program

Diagnostic Test Sequence		
Test	**Information**	**Explanation**
1	Black display followed by a Text display.	Door lock test (locks and unlocks 5 x the door) Display test
**	None	Sensor test (all wash machine sensors are tested)
3	Motor Reverse	Wash speed (inverse direction high spin)
4	Motor Stop	Standstill motor
5	Motor Forward	Wash speed (same direction high spin)
6	Motor Distribute	Distribution speed (same direction high spin)
7	Motor Low spin	Low spin speed (same direction high spin)
8	Motor High spin	High spin speed
9	Motor Stop	Free run or controlled deceleration
20	Inlet I1	The machine takes water by inlet 1
21	Drain 1	The water is drained by drain valve 1
22	Inlet I2	The machine takes water by inlet 2 until the safety level for heating is reached Heating activated (only if Wait temp = on)
23	Drain 1 (2)*	The water is drained by drain valve 1
24	Inlet I3	The machine takes water by inlet 3
25	Drain 1	The water is drained by drain valve 1
26	Inlet I4	The machine takes water by inlet 4
27	Drain 1	The water is drained by drain valve 1
28	Inlet I5	The machine takes water by inlet 5
29	Drain 1	The water is drained by drain valve 1
30	Inlet I6	The machine takes water by inlet 6
31	Drain 1	The water is drained by drain valve 1
32	Inlet I7	The machine takes water by inlet 7
33	Drain 1	The water is drained by drain valve 1
34	Inlet I8	The machine takes water by inlet 8
35	Drain 1	The water is drained by drain valve 1
50	Tumble	The tumble sequence

Table 49 *continues...*

Diagnostic Test Sequence		
Test	**Information**	**Explanation**
	Unload	End of the Diagnostic Cycle
* The second drain valve will be opened if a second drain valve has been selected in the Configuration menu.		
** No number 2 is displayed at the sensor test as this takes only a fraction of a second.		
If ++ ++ is displayed at the motor test sequence, then you can Advance (Press START) the test Sequence.		

Table 49

Basic Diagnostic Wash Program

Error Messages

- If the computer detects some problem during the Diagnostic Help Program, a diagnostic error message is generated.
- Check also the Error Log List in the Service Menu.
- Check the error handling and explanation of the error messages.

Basic Diagnostic Wash Program											
	Sequence		**Supply**		**Inlet**		**Temperature**	**Level**	**Wash Action**	**Time**	**R.P.M.**
	Top	**Front**	**Top**	**Front**	**Top**	**Front**					
Step 1	Wash	Wash	B	2=30 seconds	3-4-5	2-3-6-8	104°F [40°C]	NL	A=12 seconds R=3 seconds	6 minutes	W
	Drain	Drain	-	-	-	-	-	-	-	30 seconds	D
Step 2	Rinse 1	Rinse 1	-	-	2-5-6	1-2-7	-	NH	A=12 seconds R=3 seconds	1.5 minutes	W
	Spin	Spin	-	-	-	-	-	-	-	1 minute	L
Step 3	Final Rinse	Rinse 2	C	3=30 seconds	1(+6)	4-7	-	NL	A=12 seconds R=3 seconds	2 minutes	W
	Spin	Spin	-	-	-	-	-	-	-	4.5 minutes	H
	Slowdown			-	-	-	-	-	-	1 minute	-
	Tumble			-	-	-	-	-	A=12 seconds R=3 seconds	30 seconds	W

Table 50

Troubleshooting

Troubleshooting		
Problem	**Cause**	**Solving the problem**
When the power is switched on : the display is not illuminated	No external power	Switch on the external power supply Verify the external power to the machine
	The emergency button is activated	Deactivate the emergency button
	The power connector is not connected on the board	Connect the power connector
	The power connector is inverse connected	Check the wiring and connect the connector as it must be
	The fuse on the wash computer has burned	If the transformer is broken replace the wash computer
	Disconnect the input connector A & B	Check the wiring and the voltage at the power Connector
	The connector between the CPU and the I/O board of the wash computer is either absent or incorrectly pushed in.	If the transformer is still OK change the Fuse If the display is lighting up: verify if the input signals or the +16Vdc Supply Signal are touching the cabinet
The display is illuminated, but it's difficult to read the text on the display.	The brightness is not Ok	Change the value for Brightness, Viewing Angle in the Configuration Menu until you get a bright display
The display just shows "Bootloader"but the application does not run.	There is no SW loaded in the application	Load the application software from the USB flash drive
The machine is not responding on pressing the keyboard buttons	No button is functional There is no beep signal when the buttons are pressed	Check if the connector "K" of the keyboard is well connected Check if the connector "K" of the keyboard is well connected
The coins have been inserted but the price does not count down on the display.	The contact attached to the slot is not functioning The optical sensor attached to the slot is not functioning Check the electrical wiring of the slot Make sure that you entered the coin value in the Payment menu	Check correct functioning of the slot contact. Check that positive impulses are generated Check correct functioning of the optical sensor. Check that positive impulses are generated. If the electrical connection is faulty, repair it. Enter correct coin value in the Payment menu

Table 51 *continues...*

Troubleshooting		
Problem	**Cause**	**Solving the problem**
The machine is not behaving as expected	If the wrong machine type is selected the wrong outputs will be activated	Check if the right machine type is selected in the Configuration Menu.
A program is started, but the outputs are not activated	Check if connector "R" is connected	Connect the connector at the correct position
Wait is displayed and a counter is counting down	This is a wait state caused by a power interruption or a safety sequence at the end of the process	Wait until the counter has reached 0 Do not switch off/on the power again as you will restart the counter
Unload is displayed and the Door is Open	Check if the "Door Switch" is still closed	If the "Door Switch" is broken, replace the Door Switch
Wrong water level	Check if the programmed water levels are the correct ones Check if the right machine type is selected in the Configuration Menu You have changed the machine type, but the standard water levels do not change	Set the right water levels Select the right machine type in the Configuration Menu The standard water levels can only be re-initialized by programming new values or by loading the Standard Wash programs again.
The drum is not turning (No error message will be generated)	Check if the belt is broken Check the applied motor voltage Check if the motor is still functional Check the Inverter	Check the tension of the belt or replace the belt Repair the motor power supply circuit Change the motor if needed Send a request for more information to the manufacturer

Table 51

External Communication Problems

The machine communicates with the PC (Traceability Software) via the RS485 line. If the external communication is not working, check the connection between the PC and machine. Check also if you have selected the right machine communication address.

Error Message Descriptions

Failure 2: Drain Failure

Failure 2 occurs when the electronic timer detects that the water is not drained after 5 minutes in a Drain or Spin Sequence. The failure message is displayed at the end of the cycle.

Diagnosing Failure 2	
1. Check the drain tube of the washing machine	If the drain tube is blocked: repair the drain tube
2. Check the drain valve	If the drain valve is defective: replace the drain valve
3. Check the wiring: When the drain valve is switched Off, the drain valve should be open. (normal open)	If the wiring is damaged: repair the wiring

Table 52

Failure 3: Safety Switch Activated

This error occurs when the safety switch gets activated at revolutions lower than the distribution level. I.e. in the wash, rinse, soak

sequence etc., but not during the extract sequence. The error is generated when the safety switch is switched more than 10 times (for a short period of time) or for a period over 20 seconds.

Diagnosing Failure 3	
1. Check if the safety switch is broken. (Make sure shipping braces are removed)	If the safety switch is broken: replace the safety switch.
2. Check the position of the safety switch.	If the safety switch is not correctly mounted: install the safety switch properly.
3. Check the wiring, the contact of the safety switch is normally closed. Check connector pins for loose connections	If there is no continuity: repair the wiring.
4. Check whether the washer is not overloaded by the filled-in linen	Do not exceed the specified machine capacity.
5. Check the springs.	If damaged, replace them.

Table 53

Failure 4: The Linen is Not Correctly Distributed in the Stage when the Machine Starts Up the Spinning Sequence

This error occurs when the linen is incorrectly distributed in the machine when it switches from distribution revolutions into high revolutions or during the spinning sequence at low revolutions.

If the safety switch is activated, the machine first attempts five times to redistribute the linen in the drum and carry out the spinning sequence. If the safety switch gets activated 5 times, the spinning sequence will be skipped. This function will protect the machine against overload and assures the normal lifetime of the washing machine.

Diagnosing Failure 4	
1. Check the position of the safety switch.	If the safety switch is not correctly mounted, install the out of balance switch properly.
2. If this failure occurs often.	Use a fully loaded drum. A completely filled drum produces less unbalance than a drum that is only filled for 1/3.

Table 54 *continues...*

Diagnosing Failure 4	
3. Check the wiring if there is no bad connection. The saftey switch is a NC contact.	If there is a bad connection: repair the wiring.
4. Check whether the washer is not overloaded by the filled-in linen.	Do not exceed the specified machine capacity.
5. Check the springs.	Check the springs.

Table 54

Failure 5: Out of Balance High Spin

Failure 5 occurs when the out of balance sensor is activated during high spin. This failure indicates that there will probably is a mechanical defect.

Diagnosing Failure 5	
1. Check the position of the out of balance switch.	If the out of balance switch is not correctly mounted, install the out of balance switch properly.
2.Check the springs and the other mechanical parts that fix the drum.	If you see a broken mechanical part: replace the broken part.
3. Check the wiring if there is a bad connection.	If there is a bad connection: repair the wiring.
4. Check that the washing machine is installed correctly and stable.	Adjust the supports at the bottom of the washing machine.

Table 55

Failure 6: Door Switch Failure

While a wash cycle is running the internal door lock systems are scanned all the time. If during the wash cycle the wash computer detects that the "DOOR SWITCH" is not closed then the machine will immediately stop all its functions. The door will stay locked.

Diagnosing Failure 6	
1. Check the well functioning of the door switch. The door switch is a normal open contact.	If the door switch is broken or malfunctions replace the door switch.
2. Check the continuity of the wiring.	If the wiring is not continuous: repair the wiring.

Table 56 *continues...*

Diagnosing Failure 6	
3. Check the good functioning of the "DOOR SWITCH" at the inputs menu.	If the input is not functional replace the wash computer.

Table 56

Failure 7: Door Lock Switch Failure

While a wash cycle is running: the internal door lock systems are scanned all the time. If during the wash cycle the electronic wash computer detects that the door lock switch is not closed, then the machine will immediately stop all its functions. The door will stay locked.

Diagnosing Failure 7	
1. Check the well functioning of the door lock switch. The door lock switch is a normal open contact.	If the door lock switch is broken or doesn't function correct: replace the door lock.
2. Check the door lock coil.	If the door lock coil doesn’t function: replace the door lock.
3. Check the mechanical functionality of the door lock.	If the door lock is not functioning mechanically: replace the door lock.
4. Check the continuity of the wiring.	If the wiring is not continuous: repair the wiring.
5. Check the good functioning of the door lock switch at the inputs menu.	If the input is not functional replace the wash computer.

Table 57

Failure 8: Door Close Check at Start Failure

The washing machine will not start a new process when the door is not locked after pressing the START button. Failure message 8 will be generated each time the door lock sequence could not be finished once started because door was opened during locking sequence.

Diagnosing Failure 8	
1. Check door handle for damage traces and centering against door lock.	If handle is damaged, replace handle. If not good centered, center door against door lock.

Table 58 *continues...*

Diagnosing Failure 8	
2. Check if the input connector DL (door lock) is connected.	If the input connector DL (door lock) is not connected : connect connector DL.
3. Check the well functioning of the door lock switch.	If the door lock switch is broken or doesn't function correct: replace the door lock
4. Check the door lock coil.	If the door lock coil doesn’t function: replace the door lock coil.
5. Check the mechanical functionality of the door lock.	If the door lock is not functioning mechanically and can not be corrected: replace the door lock system.
6. Check the continuity of the wiring.	If the wiring is not continuous : repair the wiring.
7. Check the output relay that powers the door lock coil.	If the relay is broken, replace the wash computer.
8. Check the good functioning of the door lock switch at the inputs menu.	If the input is not functional replace the wash computer.

Table 58

Failure 9: Door Lock Switch Failure at Cycle End

At the end of the cycle the Door Lock coil is switched off and the door lock switch must open its contact. If within 30 seconds the "DOOR LOCK SOLENOID SWITCH" doesn’t change state failure message 9 will be displayed. As long the contact stay closed, failure message 9 stays on the display. If the contact should change state, the error message will be removed from the display and machine will be ready for use again.

Diagnosing Failure 9	
1. Check the functioning of the door lock switch.	If the door switch is broken or doesn't function correct: replace the door lock.
2. Check the door lock coil.	If the door lock coil doesn’t function: replace the door lock.
3. Check the mechanical functionality of the door lock.	If the door lock is not functioning mechanically and can not be corrected: replace the door lock system.
4. Check the continuity of the wiring.	If the wiring is not continuous: repair the wiring.

Table 59 *continues...*

Diagnosing Failure 9	
5. Check the output relay that powers the door lock coil.	If the relay stays closed and the relay is broken, replace the wash computer.

Table 59

Failure 10: Target Temperature not Reached

If requested temperature is not reached during step then error 10 is generated.

Diagnosing Failure 10	
1. Check if the heating contactor is activated	If the heating contactor is not activated: repair the wiring or replace the contactor.
2. Check if the heating elements are heating.	If the heating elements are not heating: Repair the wiring or replace the defective heater elements.
3. Check if the temperature sensor is functioning.	If the temperature sensor is defective: replace the temperature sensor.
4. Check the output relay that powers the heating contactor.	If the relay is broken, replace the wash computer.

Table 60

Failure 11: Fill Failure

Failure 11 occurs when the water level has not reached its target level in x minutes. x = maximum fill time, a value that can be programmed at the Initialization Menu.

WARNING

The rubber hose must be fixed with a flexible clamp on the electronic water level sensor. .

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Diagnosing Failure 11	
1. Check if the programmed maximum fill time in the Initialization menu is acceptable.	If the water flow is very slow, increase the value for the maximum fill time. The default value is 10 minutes.
2. Check if the external water valves are open.	If the water valves are closed: open the water inlet valves.

Table 61 *continues...*

Diagnosing Failure 11	
3. Check if the water inlet valves are not blocked by dirt.	If the water inlet valves are blocked by dirt: clean the water inlet valves or replace the water inlet valves.
4. Check the coil of the water inlet valves.	If the coil of the water inlet valve is electric open: replace the coil or the complete water inlet valve.
5. Check the drain valve.	If the drain valve is defective: replace the drain valve.
6. Check if the rubber hose (for measuring the water level) is well mounted on the electronic level sensor and on the drain valve.	If the hose is not well mounted: install the rubber hose properly.
7. Check if the hose on the electronic sensor is air tight.	If the air hose is not air tight: replace the air tube.
8. Check if the hose doesn't contain water. (siphon)	If the air tube contains water: remove the water and fix the hose so that it doesn't work as a siphon.
9. Check the continuity of the wiring.	If the wiring is not continuous: repair the wiring.
10. Check the output relay that powers inlet valves and the drain valve.	If the relay receives a command signal but is not closed, replace the wash computer.

Table 61

Failure 12: Overfill Failure

If the target water level is X units above the target level then failure message 12 will be displayed.

The fault message will not be generated when the user is advancing from a sequence with a high water level to a sequence with a low water level. X= "Maximum level Overfill", a value that can be programmed at the Initialization menu.

Diagnosing Failure 12	
1. Check if the water inlet valves are broken.	If the water inlet valves are broken: clean or replace the water inlet valve diaphragms.
2. Check if the water pressure is too high.	Lower the water pressure.

Table 62 *continues...*

Diagnosing Failure 12	
3. Check the output relay that powers the inlet valve.	If the relay stays closed and the relay is broken, replace the wash computer.

Table 62

In Case of Steam Heating

If the steam has not enough heating power (too low temperature), the machine will be filled with too much water at the heating part. This will result in an increased water, energy and supply consumption.

It's strongly recommended that the heating installation works with enough heating power.

A simple solution can also be to reduce the programmed target water level. As less steam will be required, the normal water level should be reached. In the initialization menu it is also possible to adjust the alarm level to avoid the error message, though this is not recommended.

Failure 13: Heating Failure

If the heater elements are not functioning : message 13 will be displayed. The message is generated when the temperature is not raising with 37.4°F [3°C] in 10 minutes time.

Diagnosing Failure 13	
1. Check if the heating contactor is activated.	If the heating contactor is not activated: repair the wiring or replace the contactor.
2. Check if the heating elements are heating.	If the heating elements are not heating: Repair the wiring or replace the defective heater elements.
3. Check if the temperature sensor is functioning.	If the temperature sensor is defective: replace the temperature sensor.
4. Check the output relay that powers the heating contactor.	If the relay is broken, replace the wash computer.

Table 63

Failure 14: Heating Time Failure

When after x minutes the target temperature is not reached (for a machine set as wait for heat): Message 14 will be displayed.

x = The programmed Maximum heating time in the Initialization Menu.

Diagnosing Failure 14	
1. Check if the programmed Maximum Heating time in the Initialization menu is acceptable.	If the machine has a small heating capacity, increase the value of the Maximum heating time. The default is 60 seconds (for machines with big heating capacity).
2. Check if the heating resistors are heating.	If the heating resistors are not heating: Repair the wiring or replace the defective heater elements.
3. Check the water temperature.	If the hot water supply temperature is too low: increase the temperature of the hot water.
4. Check if the temperature sensor is functioning.	If the temperature sensor is defective: replace the temperature sensor.

Table 64

Failure 15: Too Hot

When the water temperature is 59°F [15°C] above the target temperature : Message 15 will be displayed.

For evaluation of the problem, you can follow the water temperature of the bath on the display of the washing machine by pressing the Service Button on the keypad.

Diagnosing Failure 15	
1. Check if correct water inlet valves have been programmed. If only hot water inlet valves have been programmed, and if the hot water supply has a temperature value above the programmed wash sequence value then the temperature of the wash bath will be too high.	Choose the correct water inlet valves for the wash sequence when you create or adjust the parameters of the wash program. Don't program only hot water inlet valves but also cold ones!

Table 65 *continues...*

Diagnosing Failure 15	
2. Check if the correct water inlet valves are Functional. If the cold water inlet valves are not functional or if the main cold water supply is not available (and only hot water inlet valves are open), and if the hot water supply has a temperature value above the programmed wash sequence value then the temperature of the wash bath will be too high.	Refer to *Failure 11: Fill Failure*
3. Check the water temperature.	If the temperature of the supplied hot water is too high: decrease the temperature of the hot water.
4. Check if the temperature sensor is functioning.	If the temperature sensor is defective: replace the temperature sensor.
5. Check if the heating contactor stays closed. (check voltage to contactor coil.)	If the heating contactor stays closed : Replace the heating contactor.
6. Check the output relay that powers the heating contactor.	If the relay stays closed and the relay is broken, replace the power board.
7. Check the output relay that powers the heating contactor.	If the relay is not broken, but receives a not allowed signal from the wash computer, replace the wash computer.

Table 65

Failure 16: Coin Blocking 1

When the input for coin drop 1 is blocked for more then 5 seconds: message 16 will be displayed.

Case Payment mode = ON.

Fault 16 will be displayed if the external start release signal is high for more then 10 seconds when the door has been opened at the end of the program.

Diagnosing Failure 16	
1. Check correct functioning of coin drop 1.	If the coin drop micro contact or optocoupler is not functioning 100% : replace the coin drop.

Table 66 *continues...*

Diagnosing Failure 16	
2. Check the continuity of the wiring.	If the wiring is not continuous : repair the wiring.

Table 66

Failure 17: Coin Blocking 2

When the input for coin drop 2 is blocked for more then 5 seconds: message 17 will be displayed.

Diagnosing Failure 17	
1. Check correct functioning of coin drop 2.	If the coin drop micro contact or optocoupler is not functioning 100%: replace the coin drop.
2. Check the continuity of the wiring.	If the wiring is not continuous: repair the wiring.

Table 67

Failure 18: Door Lock Pre-test Before Start

Vend Machines Only

Door lock system is checked before customer is requested to pay. If there is a lock pre-test failure then error 18 is generated.

Refer to *Failure 8: Door Close Check at Start Failure*.

Failure 19: Door Lock Test After Start

Lock system is activated after program is started. If locking procedure is not finished correctly, then error 19 is generated.

Refer to *Failure 8: Door Close Check at Start Failure*.

Failure 21: Overflow Failure

When the water level is raising above the hole of the overflow tube: message 21 will be displayed.

Diagnosing Failure 21	
1. Check that the overflow hole and tube isn't blocked.	If the overflow tube is blocked: repair the tube.
2. Check that the drain tube isn't blocked.	If the drain tube is blocked: repair the drain tube.
3. Check the water inlet valves.	If the water inlet valves are broken: replace the water inlet valves.

Table 68 *continues...*

Diagnosing Failure 21	
4. Check the output relay that powers the water inlet valve.	If the relay stays closed and the relay is broken, replace the wash computer.

Table 68

Failure 24: Defective Level Sensor

If the level sensor is broken then fault 24 will be displayed. The fault is only generated when the machine is in standby mode and no wash cycle is running. The fault can only be erased by switching off and on the power.

Diagnosing Failure 24	
1. Check the level sensor visually.	If you see some damage: replace the wash computer.
2. If the fault is persistent.	Replace the wash computer. (Be sure there is no drain problem).

Table 69

Failure 25: Defective Temperature Sensor

When the temperature sensor is broken then fault 25 will be displayed. The fault is only generated when the machine is in standby mode and no wash cycle is running. The fault can only be erased by switching off and on the power. If the fault is still available after switching on the power : fault 25 will be displayed again.

Diagnosing Failure 25	
1. Check if the temperature sensor is connected on the PCB Board.	The Female connector must be connected with the Male connector T of the PCB board.
2. Check the temperature sensor.	If the temperature sensor is broken: replace the temperature sensor.
3. Measure the resistance of the sensor.	If the resistance is not OK: replace the temperature sensor.
4. Check if the earth wire is at the middle position of the connector.	If the earth wire is not at the middle position: put the earth wire in the middle position of connector T.
5. Check the PCB board visually.	If you see some damage : replace the wash computer.

Table 70 *continues...*

Diagnosing Failure 25	
6. If the fault is persistent.	Replace the wash computer. Be sure that the problem is related to the PCB board and not to a defective temperature sensor.

Table 70

Failure 26: Undefined Mitsubishi Frequency Inverter Error Code

Occurs if the inverter gives an error message which is not recognised by the wash computer.

Failure 27: Communication Fault Inverter

This fault will only occur when there is no communication between the wash computer and the inverter. The wash computer is sending requests to the inverter, and the inverter is sending answers to the wash computer. If the wash computer is not receiving the answers within 5 seconds then fault 27 will be displayed.

Diagnosing Failure 27	
1. For a new inverter or wash computer : Check if the right machine type and Washing machine power supply have been selected.	When the Inverter parameters are loaded at the Configuration menu, make sure that you have selected the right machine type and washing machine power supply.
2. Check if the door is closed and locked.	If the door is not closed then the inverter can not be powered. Close the door. If the door lock is broken, repair the door lock system.
3. Check if the inverter is energized. If the inverter power LED is not illuminated, measure if there is supply voltage at the inverter input terminals.	Repair the power supply. If the supply voltage is OK and the power LED is not illuminated, replace the inverter.
4. Check if the fuses are still operational.	If the fuses are blown up : replace the fuses.
5. Check if the safety inverter contactor is activated.	If the safety contactor is broken: replace the contactor.
6. Check if the connectors on both sides of the communication cable are still connected.	Connect the connectors on the wash computer and the inverter.

Table 71 *continues...*

Diagnosing Failure 27	
7. Check the wiring for continuity.	Repair the wiring.
8. Check if the output relays that activates the safety inverter contactor is functional.	If the relay is broken, replace the wash computer.

Table 71

Failure 28: THT (Mitsubishi) Time Out

Fault 28 occurs when the wash computer can not handle the THT (Mitsubishi) / E.OL (KEB) fault of the frequency inverter. This fault is a specific fault of the frequency inverter caused by an over current.

Diagnosing Failure 28	
1. Check if the correct machine type is selected at the Configuration Menu.	If the wrong machine type is selected, enter the right machine type.
2. Check if the dedicated inverter parameters have been loaded by the wash computer.	Load the correct Inverter parameters.
3. Check if the power supply is sufficient high and stable during extraction with load.	Repair the power supply.
4. Check if the drum rotates normally by hand.	Repair / clean what is necessary.
5. Check if the fault is persistent.	If the fault is persistent, contact the manufacturer.

Table 72

Failure 29: OV3 (Mitsubishi) Time Out

Fault 29 occurs when the wash computer can not handle the OV3 (Mitsubishi). This fault is a specific fault of the frequency inverter caused by an overvoltage.

Diagnosing Failure 29	
1. Check if the correct machine type is selected at the Configuration menu.	If the wrong machine type is selected, enter the right machine type.
2. Check if the dedicated inverter parameters have been loaded by the wash computer.	Load the correct Inverter parameters.

Table 73 *continues...*

Diagnosing Failure 29	
3. Check if there was a high unbalance during extraction, which can be caused by putting only half loads in the machine.	Put always a full load in the machine drum. Do not put other material than textile linen (fabrics) in the machine.
4. Check if the fault is persistent.	If the fault is persistent, contact the manufacturer.

Table 73

Failure 31: Initialization Fault Inverter

Fault 31 occurs when something goes wrong while the wash computer writes the dedicated inverter parameters into the inverter EEPROM memory. This fault message means that not all dedicated inverter parameters have been loaded. As a result the inverter will not work in a correct way.

NOTE: It is not recommended to use the washing machine as the inverter will function with the wrong parameters settings.

Diagnosing Failure 31	
1. Check if the door is closed and locked.	If the door is not closed, close the door. If the door is not locked, repair the door lock system.
2. Check if the inverter is energized.	If the inverter is not energized, check the power to the inverter. Refer to *Failure 27: Communication Fault Inverter* .
3. Write the parameters once more into the inverter.	If the fault is persistent, contact the manufacturer.

Table 74

Failure 32: Verification Fault Inverter

Fault 32 occurs if a wrong parameter is detected at the verification of the inverter parameters. After writing the inverter parameters in the inverter, the parameters are verified one by one to ensure that they have been correctly loaded. This fault message means that at least one of the dedicated inverter parameters is wrong. As a result the inverter will not work in a correct way.

Diagnosing Failure 32	
1. Check if the correct machine type is selected in the Configuration Menu.	If the wrong machine type is selected, enter the right machine type.

Table 75 *continues...*

Diagnosing Failure 32	
2. Check if the door is closed and locked.	If the door is not closed, close the door. If the door is not locked, repair the door lock system.
3. Check if the inverter is energized.	If the inverter is not energized, check the power to the inverter. Refer to *Failure 27: Communication Fault Inverter* .
4. Write the parameters once more into the inverter.	If the fault is persistent, contact the manufacturer.

Table 75

Failure 35: Wrong Software Version

When a totally new software that isn't backward compatible with previous software versions is loaded, then the software will detect that the old and new software's are not compatible. You have to reconfigure the Wash Computer. Refer to *Initializing the Machine*.

WARNING

All the custom settings will be erased in the wash computer by loading the factory settings.

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After reconfiguration of the Wash Computer, fault 35 can only be erased by switching the power Off/On.

Failure 36: The Linen is Not Correctly Distributed in the Stage Before the Start Up of the Spinning Sequence

This error occurs when the linen is incorrectly distributed in the washer during the distribution stage (before the transition from distribution revolutions into high revolutions).

In case that the unbalance detection system is activated, the machine attempts to redistribute the linen better. If there still is unbalance in the machine, it lowers the revolutions of the spinning sequence based on the unbalance magnitude. This function prevents machine overload by uneven distribution of the filled-in linen and thus increases the service life of the machine.

Diagnosing Failure 36	
1. Unbalance may be caused by inserting only half the linen load into the machine.	Always fill in the machine with a full load of linen. Do not insert any other materials than textile materials (fabrics).

Table 76

Failure 37: Drain Failure at the Spray Sequence

Failure 37 occurs when the electronic timer detects that the water is not drained after 3 minutes at the Spray Sequence.

Diagnosing Failure 37	
1. Check the drain tube of the washing machine.	If the drain tube is blocked: repair the drain tube.
2. Check the drain valve.	If the drain valve is defective: replace the drain valve.
3. Check the wiring: When the drain valve is switched Off, the drain valve should be open. (normal open)	If the wiring is damaged: repair the wiring.

Table 77

Failure 39: Empty Soap Supply Box

Failure 39 occurs when the electronic timer detects that the Soap Reservoir is empty.

To avoid that No Liquid Soap is added at the wash process, the operator gets a warning when a Liquid Soap Supply Reservoir is almost empty.

Diagnosing Failure 39	
1. Check if the Liquid Soap Supply is empty.	Add Soap to the Liquid Soap Supply System.

Table 78

Failure 41: Service Due Warning

Failure 41 occurs when the cycle counter of the Electronic timer has reached the Programmed Value for Service due. The fault message will be erased by opening the door. If the cycle counter has not been reset the message will appear again at the end of the next wash cycle.

Diagnosing Failure 41	
1. Check the cycle counter in the Service Information.	You can reset the cycle counter in the Service Menu.

Table 79

Failure 42: No Network Connection

Failure 42 occurs when there is No Network Connection available. For more information about networking, refer to Traceability Software Manual.

Diagnosing Failure 42	
1. Check the network cable.	If the network cable is broken, replace the network cable.
2. Check the USB-RS485 converter.	If the converter is out of order, replace it.

Table 80

Failure 43: Wrong Voltage Range Selection

Failure 43 occurs when the wrong Voltage Range has been selected in the Configuration menu.

Depending on the machine type and the inverter type, certain Voltage ranges are not allowed.

Diagnosing Failure 43	
1. Check the Machine Identification plate at the back of the machine.	Select the same Voltage range in the Configuration menu as on the Identification plate of your washing machine. Menu Item C:Supply Voltage

Table 81

Failure 44: Incorect Selection of Machine Type

Failure 44 is displayed when the operator selects the freestanding machine option (i.e. machine with a safety switch) on a rigid-mount machine (i.e. machine without a safety switch).

Diagnosing Failure 44	
1. Check the machine name plate placed on the back of the machine.	Select the right machine type in the Configuration Menu.

Table 82

Failure 45: Drum Rotation Sensor is not Working

Failure 45 is displayed when the programmer device is not receiving information on drum rotation from the rotation speed sensor. The rotation speed sensor check is performed during the wash cycle, before the spinning sequence.

Diagnosing Failure 45	
1. Check whether the drum rotation sensor is installed at the drum pulley, correctly set and connected to the programmer.	Perform correct installation of the drum rotation sensor.

Table 83 *continues...*

Diagnosing Failure 45	
2. Check correct function of the sensor. If a metal object is brought close to the sensor, an indicator light situated on the sensor must light up.	If the sensor is not working correctly, replace it.
3. In Service menu, check correct function of the rotation sensor when a metal object is brought near it.	In case that the programmer device does not respond to the signal sent from the rotation sensor, replace the programmer device.

Table 83

Failure 77: Time for Heating Blocking is Out

If external wait function in Initialization menu is set to Heating and external blocking signal stays high for more then 1 hour then error 77 is generated.

Diagnosing Failure 77	
1. Check if the external blocking system operates correctly.	Repair external blocking System in case of failure.
2. Check if the wiring of the input signal "On Hold" is not damaged.	If the wiring is damaged: repair the wiring.
3. Check the wash computer. (Inputs can be checked one by one in the Service Menu).	If the input of the wash computer is not functional, replace the wash computer.

Table 84

Failure 80: Time for Dispensing Liquid Detergents is Out

Failure 80 occurs when the On Hold Signal of the Liquid Supply Central Dispensing System stays high for more then 1 hour. At Input 16 of the wash computer, the Liquid Supply Central Dispensing System sends a "High" signal. This makes that the washing machine wait (at the Wash Sequence) to add Liquid Supply. It will until the Liquid Supply Central Dispensing System has pumped its liquid supplies inside the washing machine. When the On Hold signal is "LOW" the wash program is NOT put On Hold.

When the On Hold signal is "HIGH" the wash program is put On Hold.

In normal operation the On Hold Signal of the Liquid Supply Central Dispensing System must not stay high for more than 1 hour, as otherwise the machine will not finish the running wash cycle anymore.

Diagnosing Failure 80	
1. Check if the Central Soap Dispensing System operates correctly.	Repair Liquid Supply Central Dispensing System in case of failure.
2. Check if the wiring of the input signal "On Hold" is not damaged.	If the wiring is damaged: repair the wiring.
3. Check the wash computer. (Inputs can be checked one by one in the Service menu)	If the input of the wash computer is not functional, replace the wash computer.

Table 85

Failure 85: RTC Low Battery

Failure 85 occurs when there is no battery available at the real time clock, or if the power of the battery is too small to make the real time clock run correctly.

Diagnosing Failure 85

Replace the CPU board.

Failure 95: Watch Dog

If the watch dog has been activated, message 95 is logged in the Error log register. If this occurs often, ask the help of a technician.

Failure 106: Calibration Error

Failure 106 occurs, when the calibration result does not correspond to the pre-set intervals. A different value is required for each machine model and power supply type.

Diagnosing Failure 106	
1. Check the serial plate - located at the back of the machine.	Check, whether the machine model selected in the configuration menu corresponds to the machine model specified on the serial plate. Make sure that the supply voltage selected in the configuration menu is the same as the supply voltage specified on the serial plate.
2. The machine must be empty during the calibration process.	Before you start calibration, remove everything from the drum.
3. Do not carry out calibration immediately after a wash cycle has finished.	Carry out calibration at least 2 hours after the end of the last wash cycle.

Table 86

Failure 107: Not Calibrated

Failure 107 occurs when the machine is not calibrated. Carry out machine calibration in the Advanced Menu - section Weighing. Carry out calibration at least 2 hours after the end of the last wash cycle. The machine drum must be completely empty during the calibration process. The calibration process can take up to 10 minutes. If the machine is not calibrated, the weighing function is disabled.

Failure 300-353: Mitsubishi Inverter Alarm Message

Always make sure you have the correct inverter parameter settings in the inverter, especially when you have replaced an inverter. If you are not sure go to the Configuration menu and select "Inverter Menu…". Set the correct machine type, supply voltage, load the parameters from the wash computer to the inverter once more. If the correct parameters are not in the inverter, many inverter alarms may occur. For further information, refer to original inverter manual (available on request).

Failure Message Overview			
Error Number	**Failure**	**Failure Name**	**Explanation**
300	Err OC1	Overcurrent	Refer to *Failure 300-301-302: OC Errors (OVERCURRENT)*.
301	Err OC2	Overcurrent	
302	Err OC3	Overcurrent	

Table 87 *continues...*

Failure Message Overview			
Error Number	**Failure**	**Failure Name**	**Explanation**
303	Err OV1	Overcurrent	Refer to *Failure 303-304-305: OV Errors (OVERVOLTAGE)*.
304	Err OV2	Overcurrent	
305	Err OV3	Overcurrent	
306	Err THT	Inverter overload	Refer to *Failure 306: THT-Error (INVERTER OVERLOAD)*.
307	Err THM	Motor overload	Refer to *Failure 307: THM-Error (MOTOR OVERLOAD)*.
308	Err FAN	Fan stopped	Repair the cooling fan. Clean or replace if necessary.
309	Err OLT	Stall prevention	Refer to *Failure 309: OLT-Error (STALL PREVENTION)*.
310	Err BE	Brake transistor	Short circuit in brake transistor circuit. Power off immediately! Replace the inverter.
311	Err GF	Ground fault	Output overcurrent to ground. 1. Check the motor cable and motor for ground faults. 2. Disconnect the motor cable and try again. If you still have the error, replace the inverter.
312	Err OHT*	Ext thermal relay	External thermal relay (TRM module, see electrical scheme) for motor protection tripped. TRM module was only used on certain machines with MCB controller and A500 inverter.
313	Err OPT	Option	Refer to *Failure 313-315: OPT/PUE-Error (OPTION FAULT/ PARAMETER UNIT LEAVE OUT)*.
314	Err PE	Corrupt memory	Memory was overwritten too many times. Replace inverter.
315	Err PUE	PU leave out	Refer to *Failure 313-315: OPT/PUE-Error (OPTION FAULT/ PARAMETER UNIT LEAVE OUT)*.
316	Err Ret*	Retry no over	The max number of retries after fault reached. The actual inverter error code that causes the problem and which should be solved, is stored just before Err 316 in the error log.
317	Err CPU	CPU Fault	Communication error of built in CPU. Replace inverter.
318	Err E.6	CPU Fault 6	Internal fault, if the fault is persistent, replace the inverter.
319	Err E.7	CPU Fault 7	Internal fault, if the fault is persistent, replace the inverter.
320	Err IPF	Instantaneous power failure	Power failure between 15 and 100ms. Check for bad contacts in the power circuit. Repair the power supply.
321	Err UVT	Under voltage	Supply voltage too low. Check jumper P/+-P1.
322	Err LF	Output phase failure	Phase open detected on inverter output. Check for bad contacts or defect (open) motor windings.
323	Err OP1*	Option slot 1	Problem with the option in slot 1 or option contact fault.

Table 87 *continues...*

Failure Message Overview			
Error Number	**Failure**	**Failure Name**	**Explanation**
324	Err OP2*	Option slot 2	Problem with the option in slot 2 or option contact fault.
325	Err OP3*	Option slot 3	Problem with the option in slot 3 or option contact fault.
326	Err CTE	PU short circuit	Short circuit on the RS485 communication connector. Check for short circuit in the communication cable.
327	Err P24	24VDC short circuit	Short circuit on the 24VDC power output (PC terminal). Check for short circuit on the inverter control terminals.
328	Err MB1*	Brake sequence error 1	Sequence errors during use of the brake function.
329	Err MB2*	Brake sequence error 2	
330	Err MB3*	Brake sequence error 3	
331	Err MB4*	Brake sequence error 4	
332	Err MB5*	Brake sequence error 5	
333	Err MB6*	Brake sequence error 6	
334	Err MB7*	Brake sequence error 7	
335	Err FIN	Heatsink overheat	Refer to *Failure 335: FIN-Error (COOLING FIN INVERTER OVERHEAT)*.
336	Err OSD*	Speed deviation excess	Too big speed deviation during vector control.
337	Err ECT*	Encoder signal loss	Problem with the encoder signal.
338	Err E.1*	Option alarm (connector1)	Occurs if there is a contact fault of the connector between the inverter and the communication option or if the communication option is fitted to connector 1 or 2 or if the switch of the plug-in option is not on the default setting.
339	Err E.2*	Option alarm (connector2)	
340	Err E.3*	Option alarm (connector3)	
341	Err ILF*	Input phase failure	1 phase of the 3-ph input was lost for more than 1 second. Repair the 3-phase power supply.
342	Err PTC	PTC thermistor operation	Overtemperature of motor PTC (switch AU/PTC must be on PTC). 1. Check if motor cooling fan (if present) functions normally. 2. Check for contact faults in the wiring. Refer to electrical scheme.
343	Err PE2	Parameter storage error	Problem with parameter storage (EEPROM failure). If the fault is persistent, replace the inverter.
344	Err CDO*	Output Current detection	Current exceeded the output current detection level.

Table 87 *continues...*

Failure Message Overview			
Error Number	**Failure**	**Failure Name**	**Explanation**
345	Err IOH	Inrush overheat	Resistor inrush current limit circuit overheated. 1. Do not switch on/off the inverter frequently. 2. Wait approximately 15 minutes and try again. 3. If the fault is persistent, replace the inverter.
346	Err SER*	Communication error	Communication problem on the RS485 terminals connector.
347	Err AIE*	Analog input error	Overcurrent or overvoltage on input terminal 2/4.
348	Err USB*	USB communication error	USB communication check time interval has elapsed.
349	Err OS*	Overspeed	Speed exceeded the limit during encoder feedback control.
350	Err OD*	Position error	Too much difference between the position command and the position feedback during position control.
351	Err EP*	Encoder phase error	Rotation command different than the motor rotation direction.
352	Err E.11*	Opposite rotation deceleration	Rotation direction of the speed command different than the estimated speed causing overload.
353	Err E.13	Internal circuit error	Problem with an internal circuit, replace the inverter.
* This option or function is not used. If you have this error anyway do the following : 1. Reload the inverter parameters. 2. If the fault is persistent, replace the inverter.			

Table 87

Failure 300-301-302: OC Errors (OVERCURRENT)

Diagnosing Failure 300-301-302	
1. Verify that there is no short circuit on the output of the inverter. (loose wire of motor cable, motor windings, screws or other loose parts inside the motor terminal box,…)	Repair the short circuit.
2. Disconnect the motor cable from the inverter and try again.	If you still have the error with motor cable disconnected, replace the inverter.

Table 88

Failure 303-304-305: OV Errors (OVERVOLTAGE)

Diagnosing Failure 303-304-305	
If the DC-voltage on the capacitors is too high, the inverter will generate OV error.	
1. Check if there was a high unbalance during extraction, which can be caused by putting only half loads in the machine.	Put always a full load in the machine drum.
2. Check if the supply voltage is not too high.	Reduce the supply voltage.
3. Check if the fault is persistent	If the fault is persistent, contact the manufacturer

Table 89

Failure 306: THT-Error (INVERTER OVERLOAD)

Diagnosing Failure 306	
If the output current of the inverter is abnormal high for some time, the inverter will go into THT-alarm state.	
1. Verify that the power supply is sufficient and stable during extraction with load.	Repair the power supply.
2. Make sure the drum rotates normally by hand. No abnormal high friction.	Repair / clean what is necessary.
3. Check if the motor windings are OK.	Replace the motor.

Table 90

Failure 307: THM-Error (MOTOR OVERLOAD)

Diagnosing Failure 307	
If the motor current is higher than allowed for a longer time, the inverter will activate the electronic overcurrent protection to prevent the motor from overheating and the inverter will go into THM-alarm state.	
1. Check if the drum rotates normally by hand.	Repair / clean what is necessary.
2. Check if the motor windings are OK.	Replace the motor.
3. Check if the fault is persistent.	If the fault is persistent, contact the manufacturer.

Table 91

Failure 309: OLT-Error (STALL PREVENTION)

Diagnosing Failure 309	
The output frequency has dropped to minimum because of current limitation.	
1. Check if the power supply is sufficient high and stable during extraction with load.	Repair the power supply.
2. Check if the drum rotates normally by hand. No abnormal high friction.	Repair / clean what is necessary.
3. Check if the motor windings are OK.	Replace the motor.

Table 92

Failure 313-315: OPT/PUE-Error (OPTION FAULT/ PARAMETER UNIT LEAVE OUT)

The OPT/PUE-ERROR can happen occasionally by a very short general mains power supply interruption. Due to the power interruption, the inverter was not able to reset itself correctly. In such case the contactor must not be replaced. The Inverter must be reset by a longer power interruption.

Diagnosing Failure 313-315	
If the inverter doesn't receive requests from the wash computer (no serial communication), after about 10-30 seconds the inverter will go into OPT/PUE-alarm state.	
1. Check at the end of the wash cycle, if the power supply contactor of the frequency inverter switches is switched off on all phases.	Replace the contactor if the problem is persistent.

Table 93

Failure 335: FIN-Error (COOLING FIN INVERTER OVERHEAT)

Diagnosing Failure 335	
If the heatsink temperature of the inverter crosses it's max allowed operation temperature, the inverter will go into FIN-alarm state.	
1. Check if the cooling fan of the inverter (if present) rotates normally.	Replace the cooling fan on the inverter (on the heatsink of the inverter).
2. Check if the cooling fan in the washer that takes fresh air to the inverter’s environment (if present) rotates normally.	Replace the cooling fan of the washer.
3. Check if the heatsink or the cooling fans are not clogged with dust/dirt so that fresh air can circulate freely.	Clean what is necessary.
4. Check if the ambient temperature of the washer is within the specified limits. Refer to Installation/Operation/Maintenance Manual.	Take care that the ambient temperature is within the specified limits.

Table 94

Failure 500-526: Memory Errors

If a memory error occurs then something is going wrong with the EEPROM.

Try to reload the washing Programs. Check for source of electrical "noise".

Failure 560: USB Not Found

The error message is displayed when an attempt to read from or write on a USB flash disk fails.

Failure 561: File Not Found

The error message is displayed when the respective file is not found during an attempt to read from a USB flash disk.

Failure 562: Export Failed

The error message is displayed when an attempt to write onto a USB flash disk fails.

Failure 563: Import Failed

The error message is displayed when an attempt to read from a USB flash disk fails.

Failure 570-571: Card Reader Error

Problem with card reader payment system.

Failure 600-628: Software Errors

Software errors must never occur. If a software error message occurs inform the manufacturer.

Service Information

Service Information

WARNING

Professional repairs in electro installation can be carried out only by service organization with permission given by producer / supplier.

In case of any maintenance or repair, disconnect the machine from source of energy and wait until the machine cools down or drains water.

Please follow all instructions in the manuals and the labels and as well as valid basic security laws in order to prevent burns and scalds and injuries caused by electricity.

C081

Maintenance

Remove dirt from the keyboard by a damp cloth after disconnection from the power supply.

WARNING

Do not use aggresive soaps, caustic chemicals, gasoline or other petrochemical substances which can damage the keyboard.

C082

Information for Service

Finding out the software version:

- Press the INFORMATION button and then the SELECTION OF ADDITIONAL FUNCTIONS button.
- The display shows the software version in the "772.XXX.X" format.

Please always include the software version, along with the machine's serial number and purchase order code when corresponding within any correspondence with the manufacturer or when making any enquiries with / making any inquiries to the manufacturer.

Programmer Circuit Board

WARNING

Connection to the wrong voltage supply may cause serious bodily injury as well as damage to the electronic parts and to the wasching machine itself.

C083

- Voltage : 200-240 Vac, 50/60 Hz
- Power : max 20 VA
- Outputs : 24 relays
- Serial interface: RS485 (2 wire) networking between wash computer and external device (PC Computer)
- Display : LCD display

CPU Board

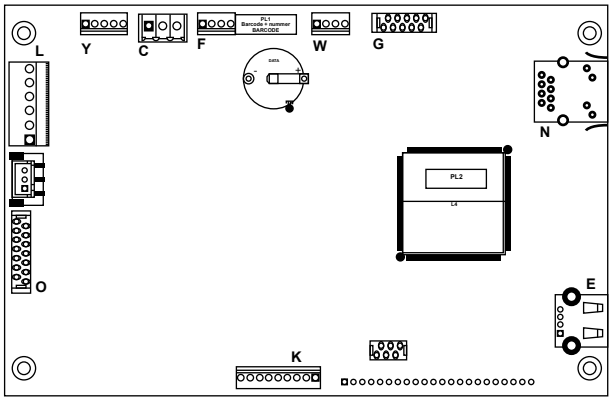

Figure 31

I/O Board

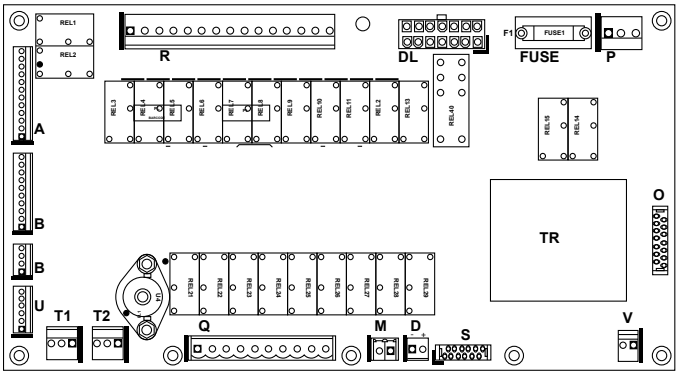

Figure 32

Instructions for Replacing the Programmer Boards

1. Switch off the main power supply.
2. Open the cover plate of the washing machine.
3. Remove the connectors from the programmer boards (including the connector between the CPU and I/O boards) and remove the small hose from the water level sensor.
4. The CPU board of the programmer can be removed after you have unscrewed the securing screws.
5. Remove the I/O board of the programmer, including the bearing sheet metal after you have loosened the two securing screws.
6. Insert a new electronic programmer into the machine and secure it by the screws.
7. Reconnect all the connectors and put the little hose back on the level sensor.
8. Close the cover plate of the washing machine.
9. Now you can Switch On the power supply.
10. The display should illuminate.

WARNING

Make sure that the small hose of the level sensor is correctly secured by a flexible clamp.

If the hose is not air tight then the level sensor will not make a correct measurement.

Make sure that you don´t damage the flex cable of the keypad when you put the wash computer back into the machine.

C084

Instructions for Installing New Software

1. Switch the machine power supply off.
2. Open the cover plate of the washing machine.
3. Insert a flash drive containing the software into the USB connector E (of the CPU board).
4. Switch the machine power supply on.
5. The display shows information that the software is being copied from the flash drive into the programmer board.
6. When the copying is finished a prompt to remove the flash drive from the CPU is displayed.
7. Switch the machine power supply off and remove the flash drive.
8. Close the washing machine cover plate.
9. Switch the machine power supply on.
10. If the software is compatible with the previous software the new software can be used without re-initialization.
11. Clear all error messages in the Service-menu if you want to verify correct functionality of the new installed software.

If the software is not 100% compatible with the previous software version:

- A message which says “New SW version” will appear followed by a prompt to enter a password for initialization of the Configuration Menu
- In Configuration Menu, select Reset Factory Setting. This is explained in Chapter *Basic Description of Controls*.
- Go through the Menu items of the Configuration and Initialization Menu one by one to ensure that all settings correspond with the ones you prefer.
- All Custom Settings will be lost.

Electronic Coin Selector

Electronic Coin Selector Type EMP 500.12 v4.

- Only the Electronic Coin Selectors (Coin Drops) specified by the manufacturer can be used on the washing machines of the manufacturer.
- Reason : the electronic coin selector is preset with coin values and output pulse lengths specific to operate with the wash computer.
- The coin selector has 2 outputs signals.
  - Signal 1 (top wire) corresponds with first group of coins.
  - Signal 2 (bottom wire) corresponds with second group of coins.
- Coins are only accepted by the Electronic Coin Selector when the device works with the right power supply.
- By 16 dipswitches it is possible to customize the Electronic Coin Selector.
- Default all dipswitches are in Off position (bottom).
- It is possible to block a group of coins.
- Dipswitch 14 = On, coins group 1 is blocked.
- Dipswitch 13 = On, coins group 2 is blocked.
- The electronic coin selector is capable of accepting or blocking coins. If the electronic coin selector is accepting invalid coins (foreign coins), the tolerances can be narrowed. Valid coins may be occasionally rejected, but they will be returned to the customer.

Example:

- Dipswitch for wide tolerance = On : "Medium" tolerance is selected.
- Block coin completely : "Wide", "Medium" & "Narrow" tolerance dipswitches = On.
- The coin selector allows operation with different coins.
- It can differentiate between the 0.10 – 0.20 – 0.50 – 1.00 – 2.00 EUR coins
- The coin selector sends an impulse series corresponding to the number of impulses equal to the value of inserted coins divided by the lowest permissible value.
- The lowest permissible value = 0.10 EUR)
  - the 0.10 EUR coin => 1 impulse
  - the 0.20 EUR coin => 2 impulses
  - the 0.50 EUR coin => 5 impulses
  - the 1.00 EUR coin => 10 impulses
  - the 2.00 EUR coin => 20 impulses
- As each impulse corresponds to the value of 0.10 EUR, the value of coin 1 must be set to 0.10 EUR.