# Service Information

## Toploader Washing machine
## AWE 2316/1

8593 231 40080
Last Modification: 01/30/09



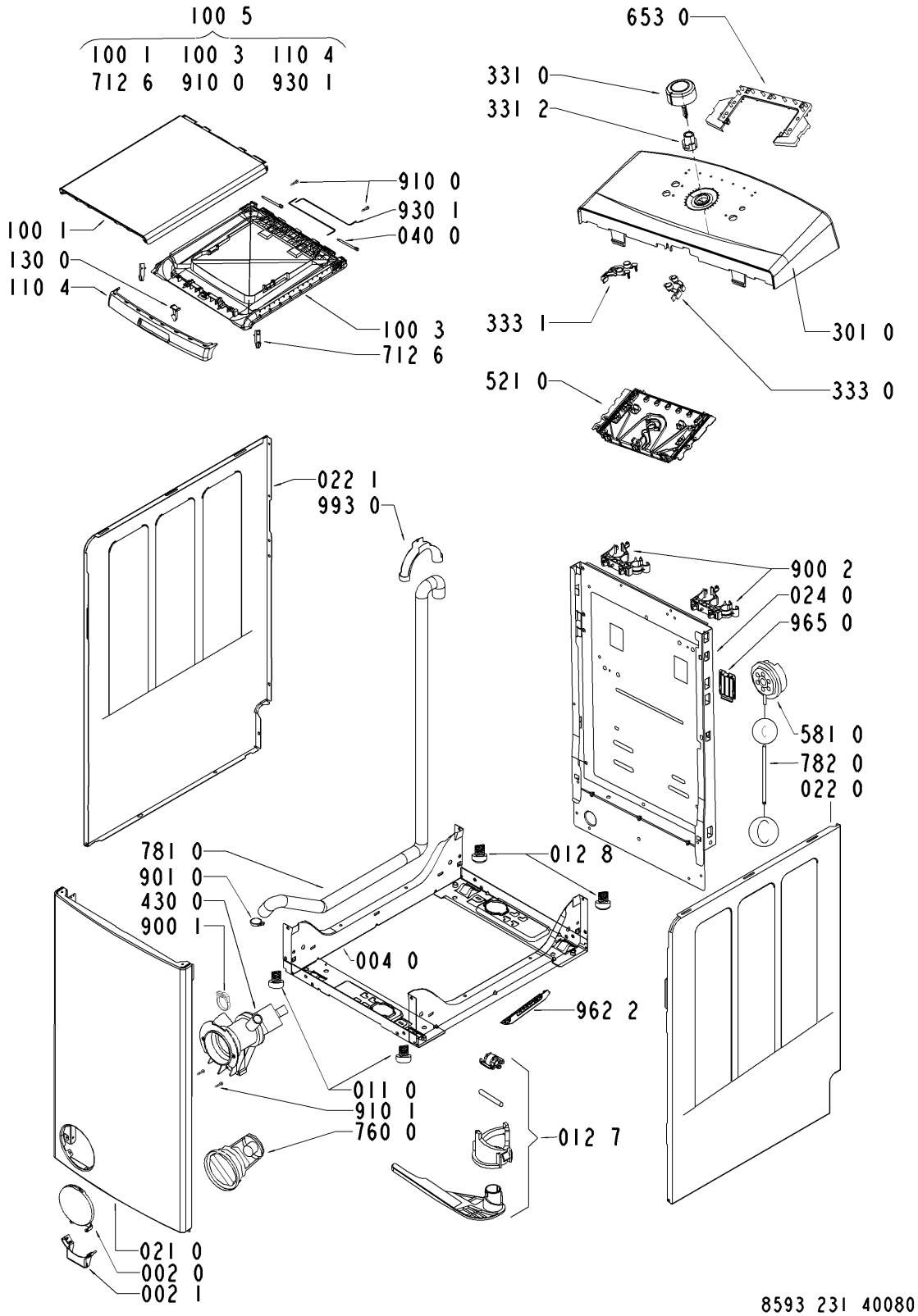
This document is only intended for qualified technicans who are aware of the respective safety regulations.
Subject to modifications

## Spare Part List

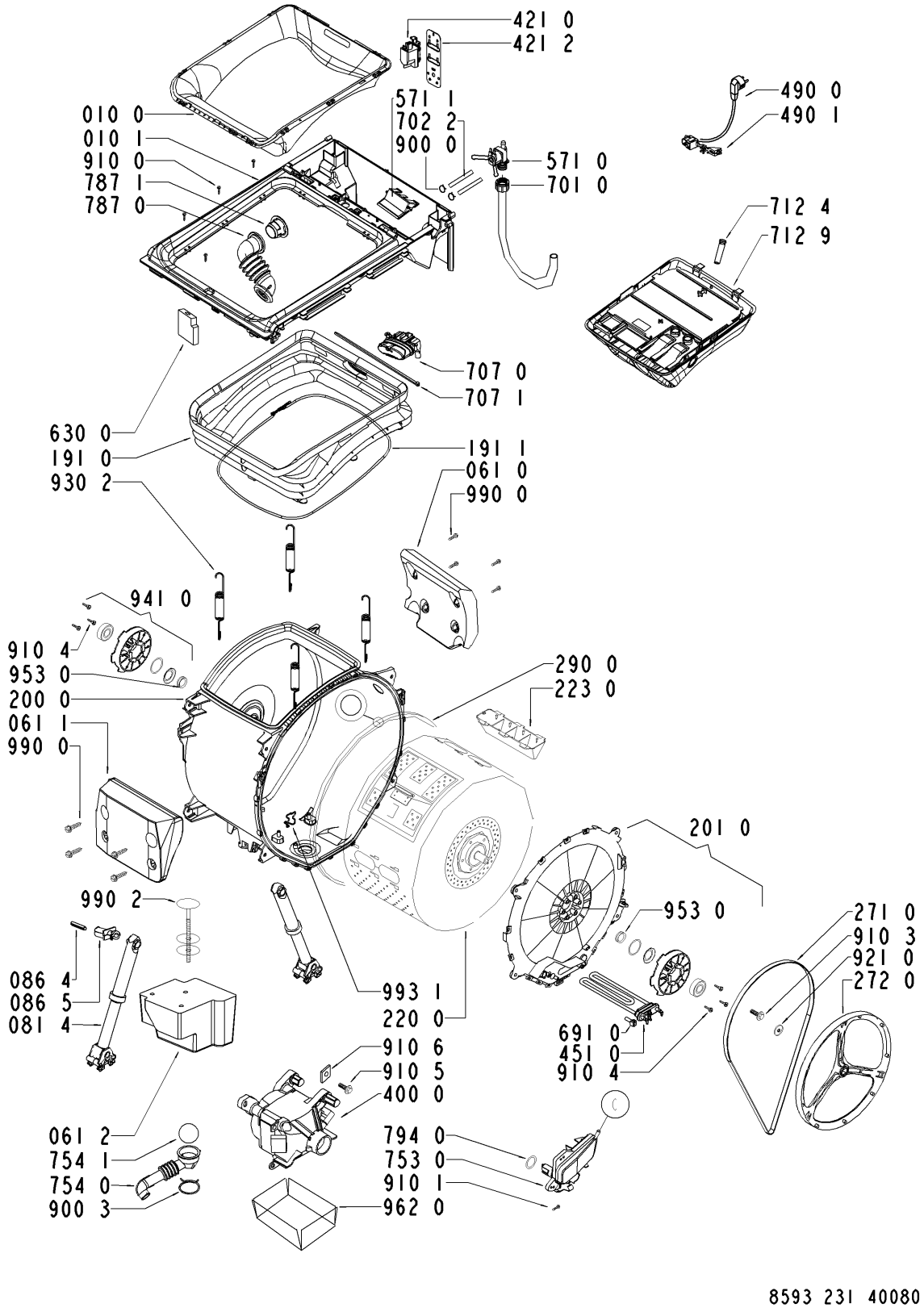
| Pos No | 12NC | Description |
|---|---|---|
| 002 0 | **4812 459 38057** | Flap round GW |
| 002 1 | **4812 459 38058** | Hinge flap GW |
| 004 0 | **4812 440 19625** | Drip tray assy |
| 010 0 | **4812 459 48175** | Door frame inner GW |
| 010 1 | **4812 440 11637** | Frame Top+nozzle box KIT |
| 011 0 | **4812 462 48054** | Foot |
| 012 7 | **4812 310 18497** | Trolley kit front |
| 012 8 | **4812 528 78075** | Foot rear |
| 021 0 | **4812 440 10838** | Front panel WH GW |
| 022 0 | **4812 440 10839** | Side panel right GW |
| 022 1 | **4812 440 10841** | Side panel left GW |
| 024 0 | **4801 101 00103** | Rear panel |
| 040 0 | **4812 417 19155** | Hinge bolt lid GW |
| 061 0 | **4812 466 88995** | Counter weight rear, 5 pts |
| 061 1 | **4812 466 88996** | Counter weight front |
| 061 2 | **4812 466 88492** | Counter weight bottom |
| 081 4 | **4812 529 18043** | Shock absorber |
| 086 4 | **4812 529 18045** | Pin f. Shock absorber |
| 086 5 | **4812 529 18052** | Damper f. Shock absorber |
| 100 1 | **4812 440 10842** | Lid outer GW |
| 100 3 | **4812 440 10843** | Lid inner GW |
| 100 5 | **4812 440 10845** | Lid assembly WH GW |
| 110 4 | **4812 498 18249** | Handle cpl. WH GW |
| 130 0 | **4812 417 19193** | Door latch GW |
| 191 0 | **4812 466 68596** | Door bellow |
| 191 1 | **4801 111 00817** | Strap f. Doorbellow |
| 200 0 | **4812 418 18692** | Tub LR-5pins/4fix |
| 201 0 | **4801 101 00027** | Cover f. tub LR/4fix |
| 220 0 | **4801 111 00855** | Drum LR |
| 223 0 | **4801 101 00104** | Drum lifter low |
| 271 0 | **4812 358 18167** | Belt Poly V 1204 H8 MA |
| 272 0 | **4812 528 88083** | Pulley 298 mm |
| 290 0 | **4812 532 68078** | Gasket |
| 301 0 | **4801 111 01812** | Control panel AWE 2316/1 |
| 331 0 | **4812 414 58306** | Knob timer EBL WP25 |
| 331 2 | **4812 414 58307** | Spring Knob timer |
| 333 0 | **4812 410 29503** | Push button start/reset |
| 333 1 | **4812 410 29504** | Push button option |
| 400 0 | **4812 361 58444** | Motor 1BA5736-0WA/BSH |
| 421 0 | **4812 121 18285** | Interf.filter 1,00 $\mu$F |
| 421 2 | **4812 404 38679** | Holder RFI |
| 430 0 | **4812 360 18577** | Pump,draining |
| 451 0 | **4812 259 28919** | Heating element 2050W, 230V + NTC |
| 490 0 | **4819 321 18136** | Cable mains 2m SA |
| 490 1 | **4812 321 28367** | Strain relief |
| 521 0 | **4812 214 70193** | Control unit DOMINO, programmed |
| 521 0 | **4812 214 70658** | Control unit DOMINO, Basic, C1 |
| 571 0 | **4812 281 28468** | Valve magnet 1 inlet, 2 outlets |

| Pos No | 12NC | Description |
|---|---|---|
| 571 1 | **4812 281 18069** | Cover for top frame |
| 581 0 | **4812 271 28554** | Pressostat 50/25 no dis. |
| 630 0 | **4812 271 38519** | Door lock 3P ROLD |
| 653 0 | **4812 134 18077** | Light guide PR.FLOW-FULL |
| 691 0 | **4812 282 19485** | Sensor NTC SC1,OMEGA3,DOMINO |
| 701 0 | **4812 530 29329** | Hose inlet EN 11770 Reflex |
| 702 2 | **4812 530 29453** | Hose valve-dispenser |
| 707 0 | **4812 526 48244** | Nozzle box cold cpl. |
| 707 1 | **4812 526 48049** | Clamp f. nozzle box |
| 712 4 | **4812 418 68302** | Siphon f. softener |
| 712 6 | **4812 418 68164** | Clip soap dispenser |
| 712 9 | **4812 418 68404** | Soap dispenser cpl. 3 ch. |
| 753 0 | **4812 418 68187** | Chamber,air |
| 754 0 | **4812 530 28938** | Drainhose |
| 754 1 | **4812 530 28832** | Lock eco |
| 760 0 | **4812 480 58403** | Filter pump Askoll |
| 781 0 | **4819 530 29035** | Hose draining |
| 782 0 | **4812 530 28941** | Hose Pressostat |
| 787 0 | **4812 530 29309** | Hose Air Exaust |
| 787 1 | **4812 530 29311** | Cover of hose |
| 794 0 | **4812 530 58098** | Gasket airtrap |
| 900 0 | **4819 401 18686** | Clamp hose |
| 900 1 | **4812 401 18431** | Clamp to pump |
| 900 2 | **4812 255 18304** | Holder hose |
| 900 3 | **4819 401 18529** | Clamp hose |
| 901 0 | **4812 401 18462** | Clamp hose drain hose |
| 910 0 | **4812 502 48347** | Screw,selftap 3,5x14SS |
| 910 1 | **4812 502 38151** | Screw 4x14 |
| 910 3 | **4812 502 18404** | Screw |
| 910 4 | **4812 502 18423** | Screw PT 7x15 |
| 910 5 | **4812 502 18705** | Screw M8x35 |
| 910 6 | **4812 505 18367** | Nut push in M 8 |
| 921 0 | **4812 400 18047** | Washer |
| 930 1 | **4812 492 48171** | Torsions spring |
| 930 2 | **4812 492 48162** | Spring |
| 941 0 | **4812 310 19144** | Bearing kit ALL 1100 |
| 953 0 | **4812 325 68001** | Shaft seal |
| 962 0 | **4812 440 98142** | Cover for Motor AC |
| 962 2 | **4812 440 11424** | Spacer |
| 965 0 | **4812 462 79974** | Cap Transport blocking |
| 990 0 | **4812 310 19224** | Fixing mat.set Counter weight |
| 990 2 | **4812 310 18506** | Fixing mat.set bottom |
| 993 0 | **4819 530 29028** | Bow |
| 993 1 | **4812 290 18025** | Clamp heatingelement |

## Exploded View



## Exploded View



# Technical Data

## Dimensions + Weight

Product dimensions
- Height ..... 85 cm
- Width ..... 40 cm
- Depth ..... 60 cm

Weight
- net ..... 63 kg

## Electrical base data

Voltage ..... 230 V ± 10%
Frequency ..... 50 Hz
Fuse ..... 10 A
Power Consumption ..... ~2.3 kW

## Drum data

Volume ..... 42 l
Wash speed ..... 52 rpm
Spinning
- max. ..... 800 rpm

## Pressostat

Level1 ..... 11 - 12/14
Overflow ..... 11 - 16

## Door lock

Kind of switch ..... Switch with PTC heater of bimetal
Nominal voltage ..... 230 (90 - 264) V
Locking time ..... ≤ 6 s
Unlock time ..... 37 - 65 s

## Inlet valve

Nominal voltage ..... 220 - 240 V / 50 Hz
Rated flow ..... (1.5 - 5 bar) ..... 8 l/min
Pressure range ..... 0.3 - 10 bar
Nominal resistance ..... (20 °C) ..... 3.8 kΩ

## Drain pump

Nominal voltage ..... 220 - 240 V / 50 Hz
Total power ..... 26 W
Resistor (coil) ..... 224 Ω
Capacity ..... (0.55 - 1 m) ..... 14 ± 2 l/min
Position of draining hose outlet ..... 0.9 - 1.25 m

## Heating element

Nominal voltage ..... 230 V + 10 %, -15 %
Total power ..... 2050 W
Resistance (20 °C) ..... 25 Ω
Leakage current ..... < 0.8 mA
NTC sensor
Resistance NTC

| | | |
|---|---|---|
| 0 °C | 35.9 | kΩ |
| 30 °C | 9.8 | kΩ |
| 40 °C | 6.6 | kΩ |
| 50 °C | 4.6 | kΩ |
| 60 °C | 3.2 | kΩ |
| 70 °C | 2.3 | kΩ |
| 95 °C | 1.1 | kΩ |

## Motor

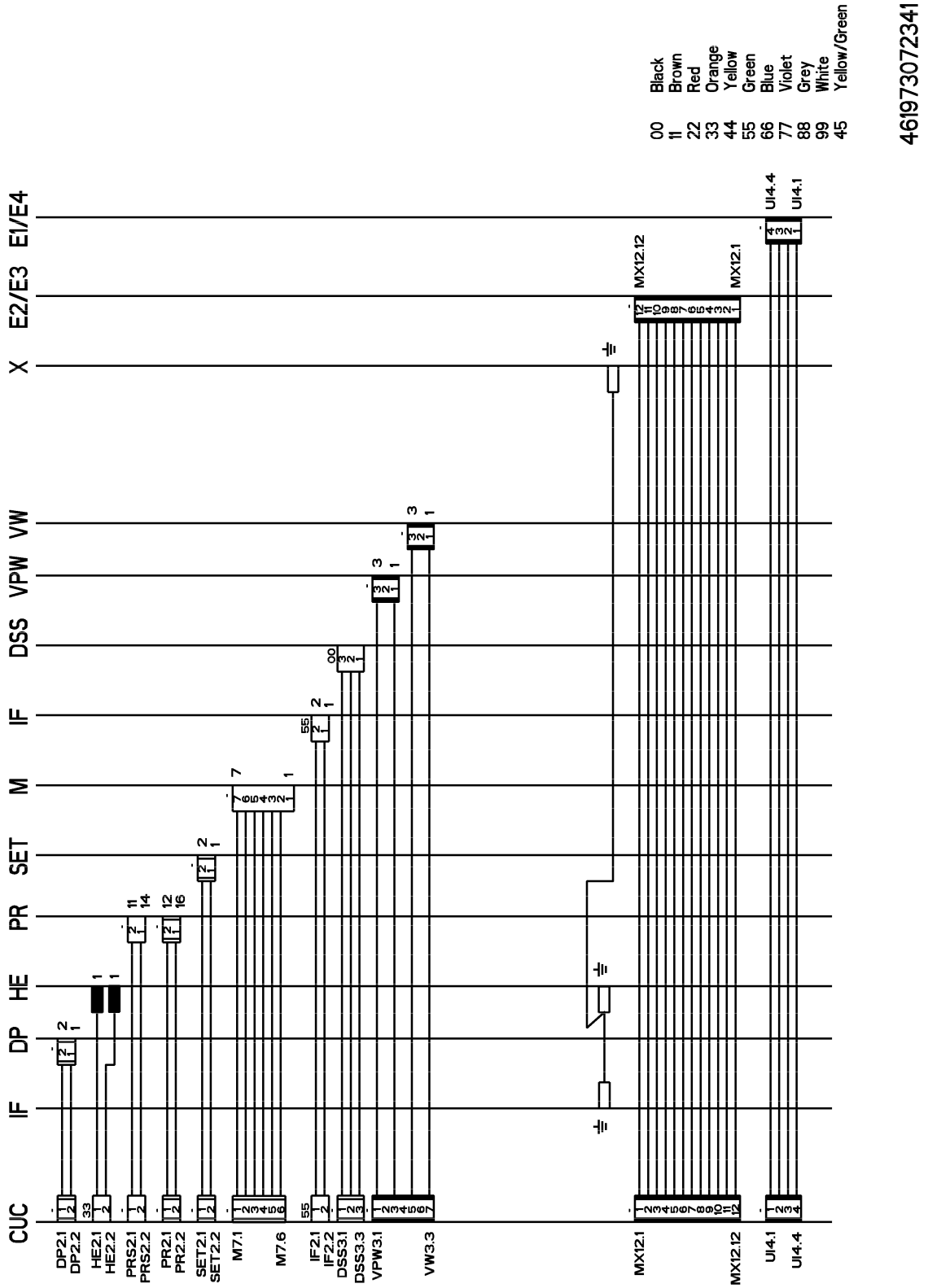
Resistance contacts ..... (20 °C)
Stator (full field) ..... 1.95 Ω
Rotor ..... 1.85 Ω
Tacho generator ..... 13.30 Ω

## Control unit

Type ..... DOMINO
Nominal voltage ..... 230 V - 240 V
Frequency ..... 50 Hz
Output control unit

| | | |
|---|---|---|
| Motor | M7.6 - DSS3.2 | >40 V |
| Aquastop | AQ2.2 - DSS3.2 | 230 V |
| In pump step | AQ2.1 - DSS3.3 | 230 V |
| NTC | Not measurable | — |
| Pump | DP2.1 - DP2.2 | 230 V |
| Doorlock | DSS3.1 - DSS3.3 | 230 V |
| Pressostat | E4 - E2 | 230 V |
| - empty | PR2.1 - E2 | 230 V |
| - full | PR2.2 - E2 | 230 V |
| Valve (Rast 2.5) | V2.1 - V2.2 | >170 V |
| Options | Not measurable | — |

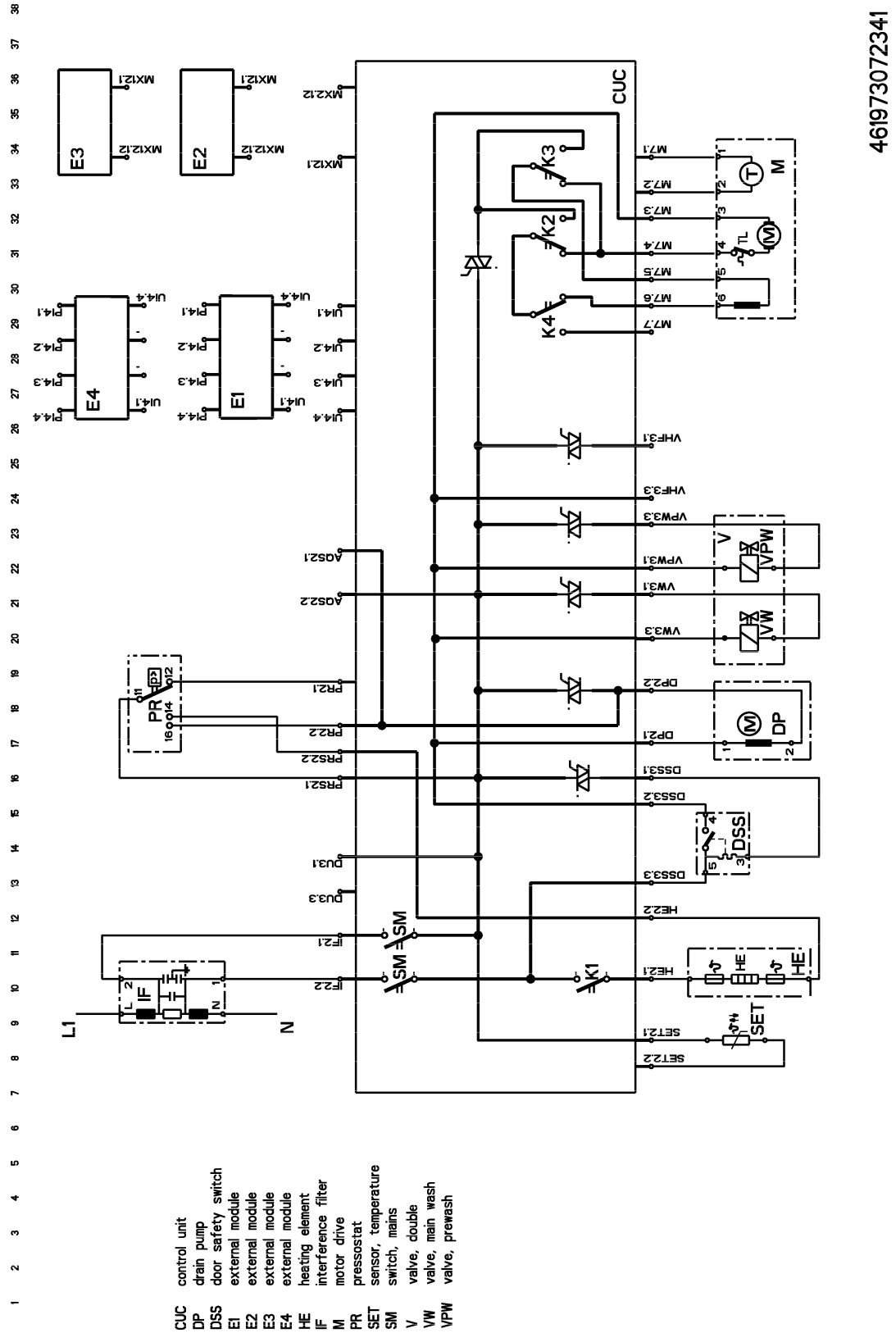
## Wiring Diagram



## Legend

| | |
|---|---|
| 00 | Black |
| 11 | Brown |
| 22 | Red |
| 33 | Orange |
| 44 | Yellow |
| 55 | Green |
| 66 | Blue |
| 77 | Violet |
| 88 | Grey |
| 99 | White |
| 45 | Yellow/Green |

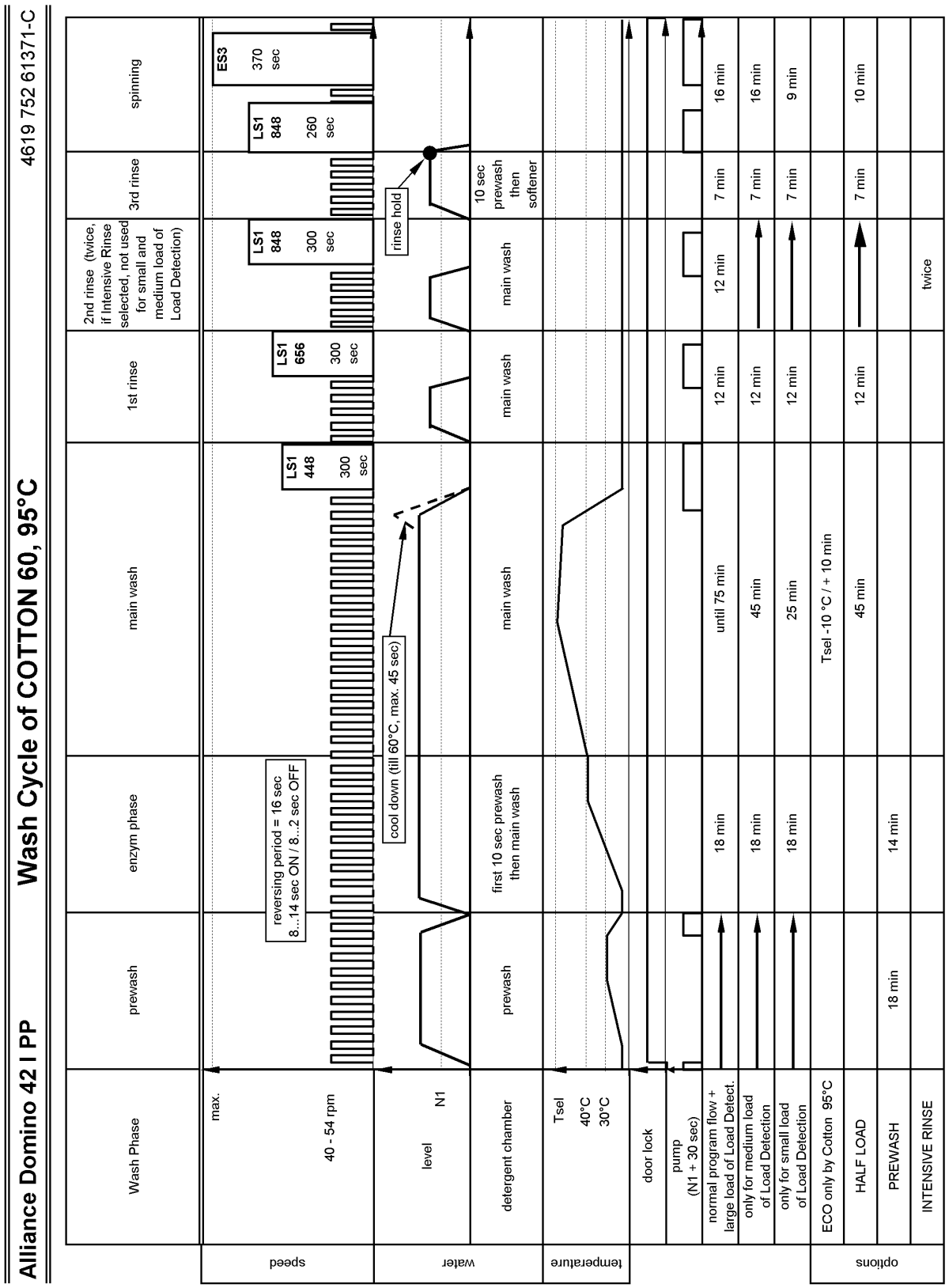
## Circuit Diagram



## Legend

| | |
|---|---|
| CUC | control unit |
| DP | drain pump |
| DSS | door safety switch |
| E1 | external module |
| E2 | external module |
| E3 | external module |
| E4 | external module |
| HE | heating element |
| IF | interference filter |
| M | motor drive |
| PR | pressostat |
| SET | sensor, temperature |
| SM | switch, mains |
| V | valve, double |
| VW | valve, main wash |
| VPW | valve, prewash |

## Program Chart



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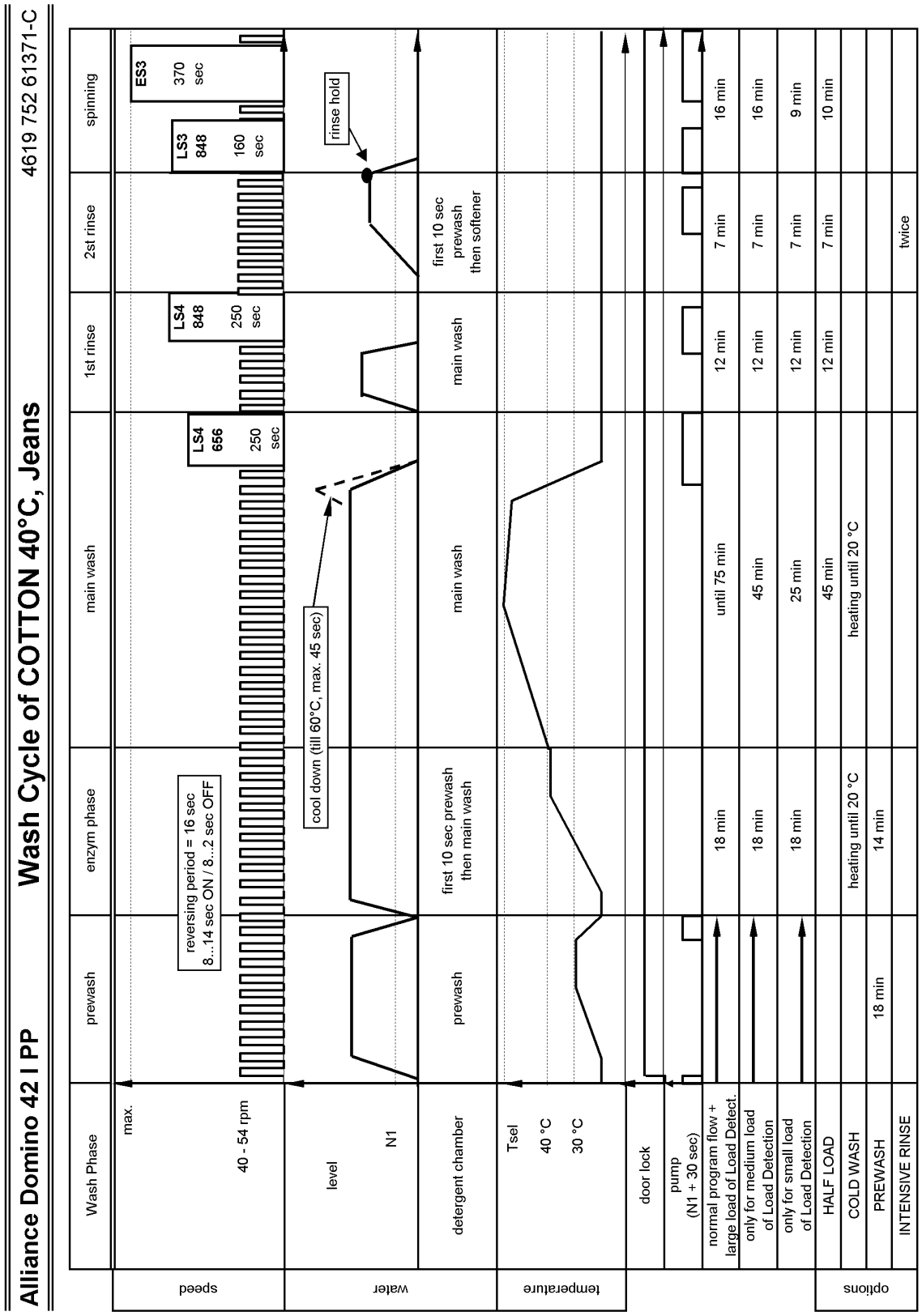
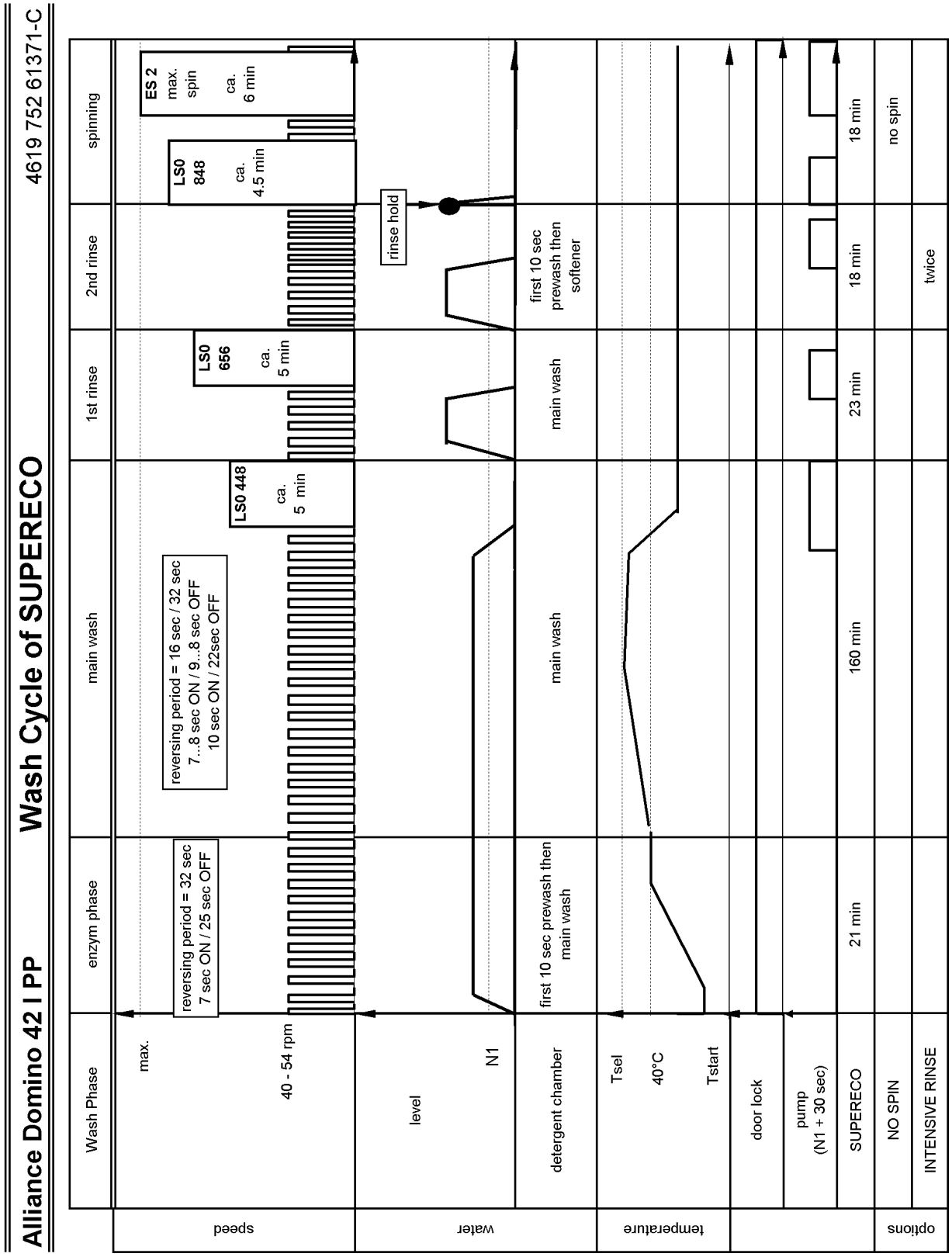



no spin: the spinning until rinse 3 is performed but not the extraction phase

Jeans: Cotton Colour 40 °C plus intensive rinse is as default programmed

## Program Chart



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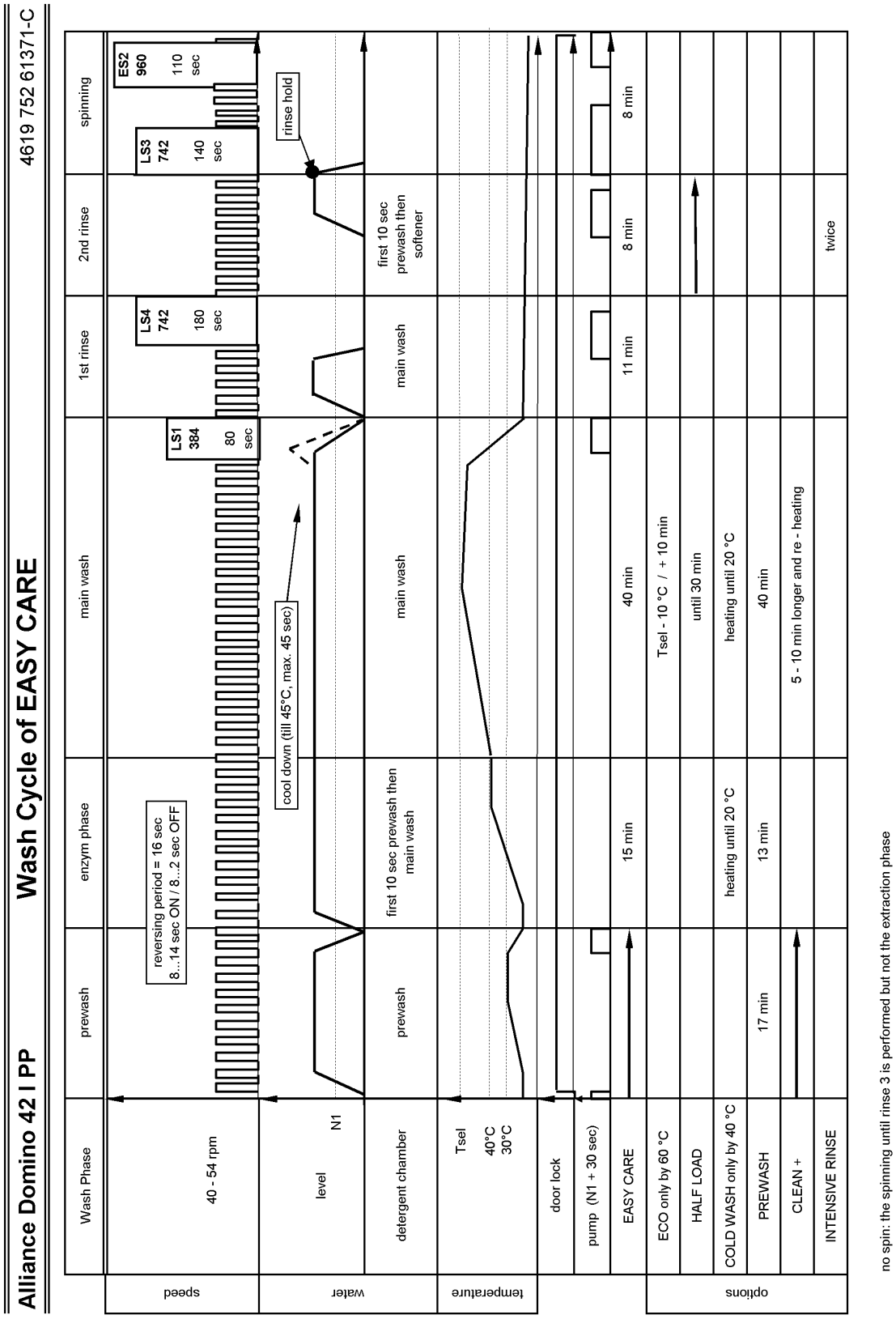

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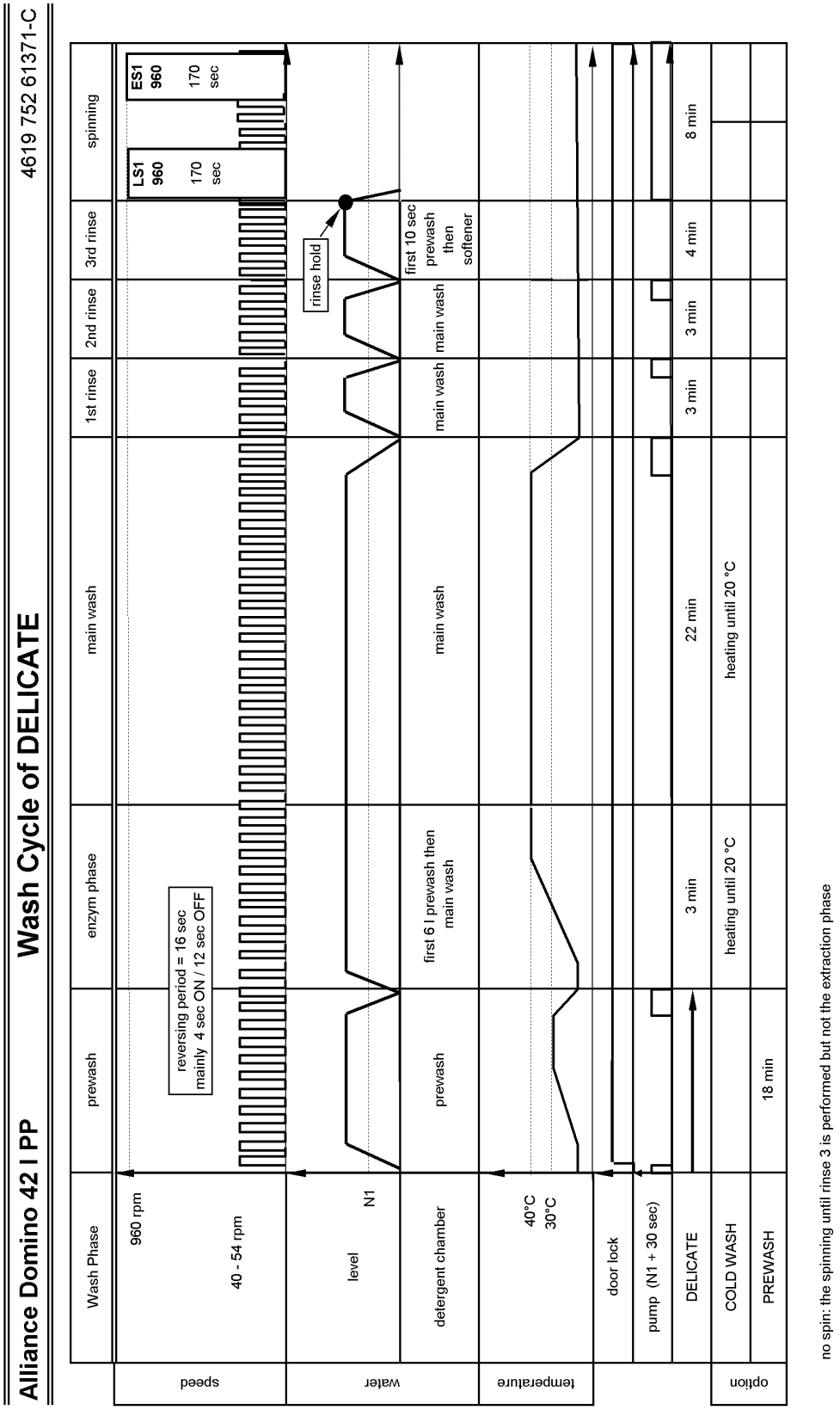

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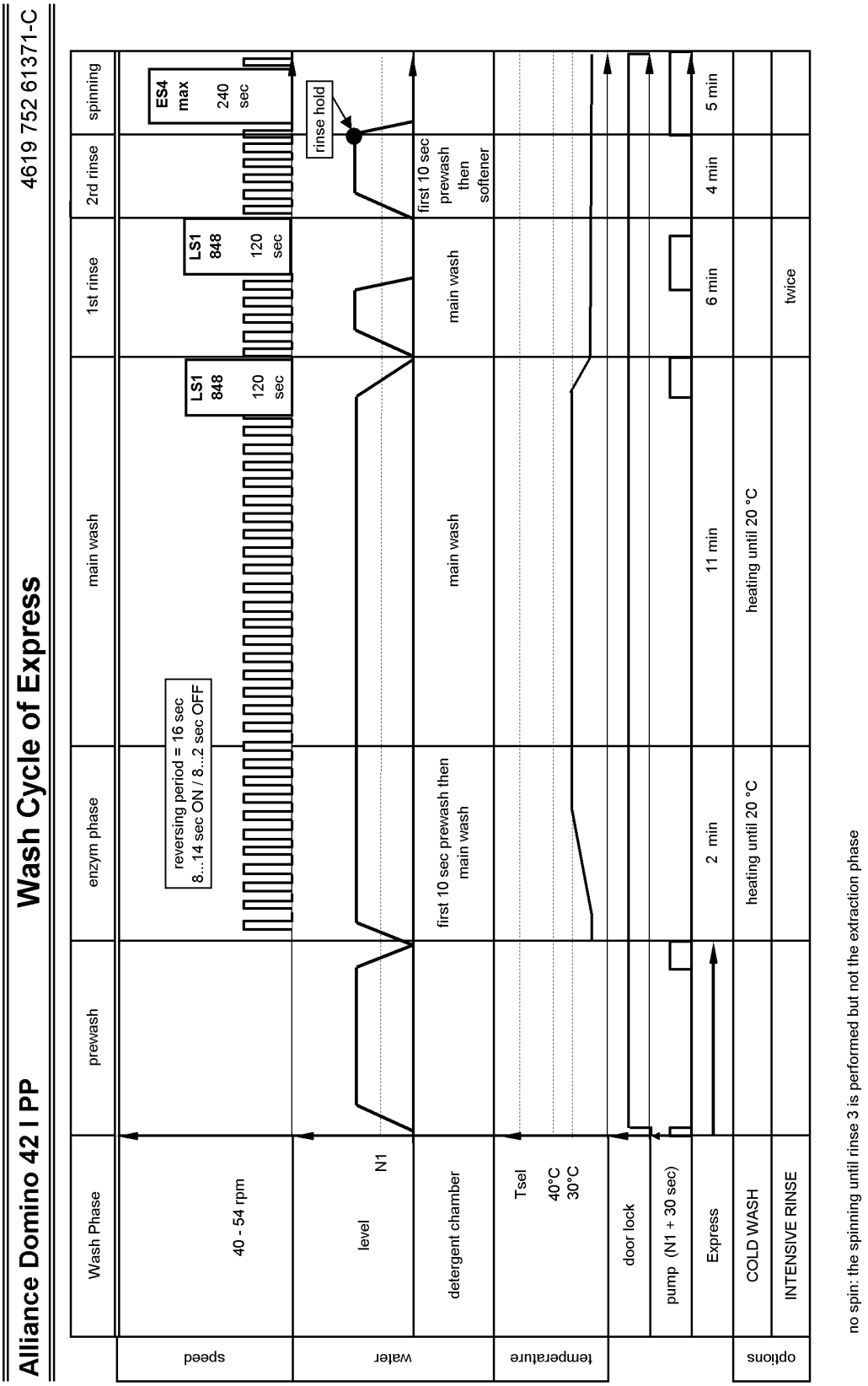

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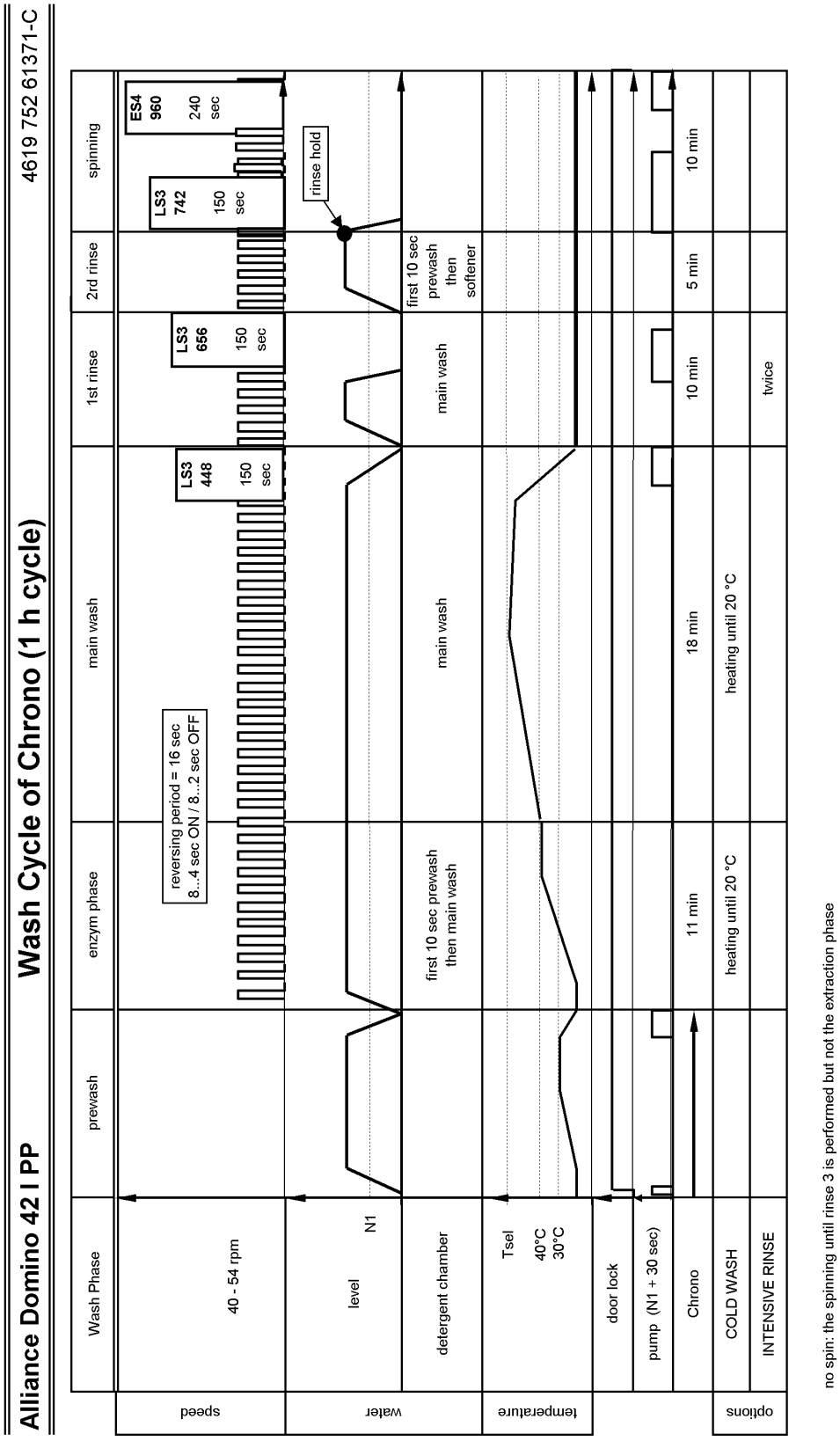

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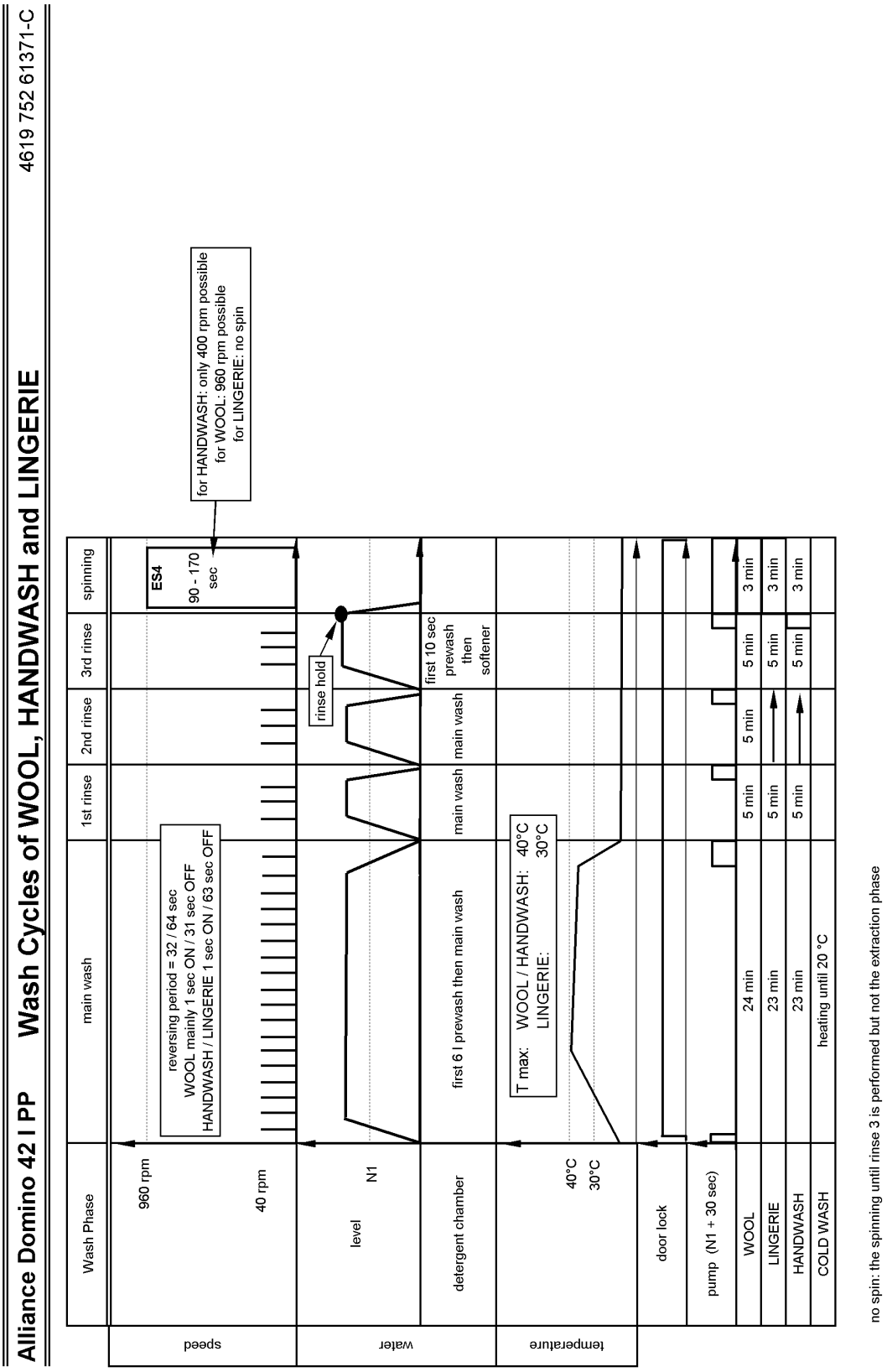
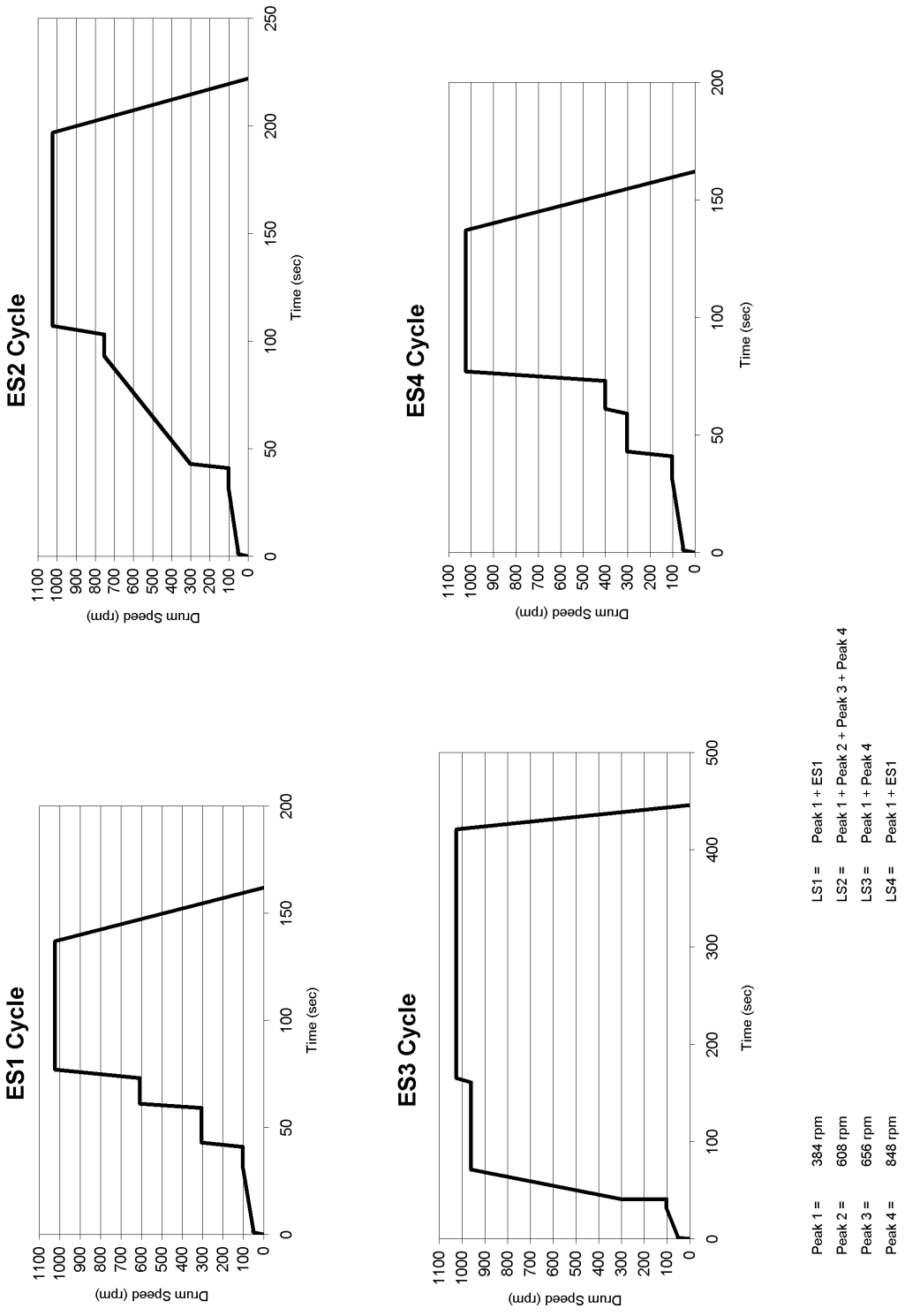



no spin: the spinning until rinse 3 is performed but not the extraction phase

## Program Chart

**Alliance Domino 42 I PP** **Spinning Profiles** Soap dispenser: 3 chambers 4619 752 61371-C



# Testprogram

1. Switch ON the appliance
2. Close the Door
3. Selected the DRAIN program
4. Press Push button (PB) Reset 4 times within 5 seconds
5. Go to the next step press PB Reset twice

## Attention: Use the test program only without laundry!

| LED Status | Digits * | Description of the Program Flow | Check to perform |
|---|---|---|---|
|  | - - 0 | The door is locked.<br>The CUC is performing the Selftest. | CUC detects<br>• F02, F05, F08, F12, F13, F14, F15, F21, F23, F26 |
|  | - - 1 | Fill 15” hot valve (only if hot fill appliance)<br>Fill 15” in prewash (PW)<br>Fill 15” in mainwash (MW)<br>Fill 15” in PW + MW (Softener)<br>Fill by MW to wash level.<br>Motor is reversing. | Technician:<br>• Check the valve activation<br>• Check the dispensing into the dispenser<br>• Check the pressure switch |
|  | - - 2 | The heating element is switched ON.<br>Motor is reversing. | Technician:<br>• Check heating element activation<br>• Check if the motor is reversing<br><br>CUC detects:<br>• F06, F07, F27 |
|  | - - 3 | The drain pump is switched ON until the wash level = OFF + 5” motor is reversing. | Technician:<br>• Check drain pump activation<br>• Check pressure switch operation<br>• Check if the motor is reversing<br><br>CUC detects:<br>• F06, F07, F27, F03 |
|  | - - 4 | The motor is driven to maximum speed.<br>Drain pump is ON. | Technician:<br>• Check if the motor is running at max. speed<br>• Check drain pump activation<br><br>CUC detects:<br>• F28 |
|  | - - 5 | Motor is switched OFF.<br>Door is unlocked. | Technician:<br>• Check if the door is unlocked<br><br>CUC detects:<br>• F13 |

- Digits1,2, (the left on) are executing an animation

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# Error Codes

| Failure Indication | | Explanation and Recommended Procedure |
|---|---|---|
| **On Status LEDs** | **On Digits** if available | |
|  | **Remaining Time** | **No water detected entering machine or pressure switch trip not detected.**<br>If after 6 minutes the control does not detect water entering machine and then valves will be turned off and the LED Water Tap will be switched ON.<br>The Control is in Pause Mode. If it was possible to remove the failure, by pushing PB Start the appliance will restart.<br>**Potential Causes**<br>• **If there is no water in the unit:**<br>• Make sure that both valves at the water source(s) are turned on all the way.<br>• Check for plugged or kinked inlet hoses or plugged screens in the inlet valves.<br>• Verify inlet valve operation.<br>• **If there is water in the unit:**<br>• Pressure switch hose is in good condition and properly connected to tub and pressure switch.<br>• Verify there is not a siphon problem.<br>• Verify wire harness connections to; inlet valves, pressure switch and central control unit (CUC).<br>• Check all hoses for possible leaks.<br>• Verify pressure switch operation.<br>• Verify CUC operation. |
|  | FA<br>F02 | **Aquastop Failure**<br>If the aquastop contact on the bottom tray of the appliance is closed for more than 30” an aquastop failure will be detected. In aquastop condition, the door will remain locked and the drain pump will run constantly.<br>**Potential Causes**<br>• **If there is water in the bottom tray of the appliance:**<br>• Check all hoses for any leakage.<br>• Check if there was an overfoam due to too much detergent used.<br>• Check the tub for any leakage.<br>• **If there is no water in the bottom tray**<br>• Check if the aquastop switch has a short circuit.<br>• Check if the aquastop wiring is properly connected.<br>• Verify CUC operation. (Check also for F26: Pump Triac Short Circuit is causing this code.) |
|  | **Remaining Time**<br>**During test program**<br>F03 | **Long Drain**<br>If the drain time exceeds 4 minutes, the LED clean Filter is turned ON.<br>The control is in Pause Mode. If it was possible to remove the failure, by pushing PB Start the appliance will restart<br>**Potential Causes**<br>• Check the drain hose and make sure it is not blocked or kinked<br>• Check the electrical connections at the pump and make sure the pump is running.<br>• Check the drain pump filter for foreign objects.<br>• Check the electrical resistance of the drain pump.<br>• The failure ca also be generated by too much foam in wash phase. Read also failure description F18. |
|  | F04 | **Too Long Heat Time**<br>If the water temperature is not increasing over 35°C during 40 minutes of the first heating step in the cycle the CUC will display this Error.<br>**Potential Causes**<br>• Check the electrical resistance of the heating element.<br>• Check Wire Harness connections to the heating element, NTC and CUC.<br>• Check the electrical resistance of the NTC (failure can also occure, when NTC resistance is not changing with temperature) |
|  | F05 | **Water Temperature Sensor Error**<br>If during the water heating step in the wash cycle, the water temperature sensor (NTC) value is out of range, the F05 error code will be displayed.<br>**Potential Causes**<br>• Check the NTC resistance.<br>• Check connections to the NTC and CUC. |

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# Error Codes

| | | |
|---|---|---|
|  | F06 | **Drive Motor Tachometer Error**<br>The control is unable to properly detect motor speed (several times) and the machine will shut down. If a failure occurs during high speed spin the door will be unlocked after the drum has stopped rotating.<br>**Potential Causes**<br>• Check wire harness connections between the motor and CUC.<br>• Check the resistance of the tachometer circuit on the motor.<br>• Check resistances of the motor windings. |
|  | F07 | **Motor Control Triac Error**<br>The main control has detected a short circuit in the motor control triac. If a failure occurs during high speed spin the door will be unlocked after the drum has stopped rotating.<br>**Potential Causes**<br>• Check CUC by running Test Program. |
|  <br>  | F08<br>F12 | **Heater Circuit Error**<br>The main control has detected a heater circuit failure. This failure modes are checked before the cycle starts and after the spinning steps.<br>**Potential Causes**<br>• Check the resistance of the heater connectors to the ground.<br>• Check the resistance of the heater.<br>• Check the wiring connectors to the heater and CUC.<br>• Check the CUC. |
| LED Door open flashing for 10”<br>  <br>  | **Only during test program**<br>F13 | **Door Open LED flashing after the cycle is started**<br>If the CUC is not able to lock the door of the washer after program start within 10”, the door open LED will flash for 10”.<br>If the CUC is not able to unlock the door at the end of program within 240”, this code will be displayed. After switch OFF and ON, CUC will again try to open the door lock for 240”. During this phase all LEDs will be OFF. If this is again not successful, Code will appear after 240”.<br>**Potential Causes**<br>• Check if the door is closed properly.<br>• Check if there is a mechanical problem on the door lock system.<br>• Check the wiring/harness between the CUC and the door lock.<br>• Start the Test Program. If the problem persists the error Code F13 will be displayed. |
|  | F14 | **EEPROM Error**<br>The CUC receives it’s data from an EEPROM on board the CUC. If there is an error reading this data it will cause this failure indication.<br>**Potential Causes**<br>• A power glitch (mains disturbance) may cause this error:<br>Run the Test Program. This will perform a complete check of the EEPROM.<br>If the failure is detected during the Test Program replace the CUC. |
|  | F15 | **Drum Up Circuit Missing (only for TOPLOADERS with DRUM UP Circuit)**<br>If the CUC is not detecting the Drum Up switch closing during motor rotation this failure is displayed. This error is detected ONLY during the Test Program.<br>**Potential Causes**<br>• Check the position of the electromagnetic device.<br>• Check the position of the reed sensors.<br>• Check the resistance of the reed sensor.<br>• Check the wiring connection between the reed sensor and the CUC. |
|  | F18 | **Foam detected During the Wash Cycle**<br>If the CUC is not able to drain out the water after washing or not able to spin after several trials this alarm Code is displayed.<br>**Potential Causes**<br>• Customer used too much detergent.<br>• Check if there is any problem with the pump hoses.<br>• Check the pump for foreign objects.<br>• Check the electrical resistance of the pump.<br>• Check the electrical resistance of the pressure switch.<br>• Check if pressure switch hose is in good condition and properly connected to tub and pressure switch.<br>• Verify there is not a syphon problem. |

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# Error Codes

| | | |
|---|---|---|
|  | F21 | **User Interface Error (detected only with display user interfaces)**<br>If the communication between user interface module and CUC is disturbed, this Error is displayed. If the failure is displayed on the digits the display module is not able to “talk” to the CUC. If the failure is displayed on the status LED the CUC is not able to contact the Display module.<br>**Potential Causes**<br>• Check wiring connection to the display module.<br>• Check display module.<br>• Check CUC. |
|  | F23 | **Pressure switch Failure**<br>If the CUC detects during the wash cycle that the pressure switch contact for the wash level and the pressure switch level for the heater safety are ON or OFF simultaneously for 10” this failure will be displayed.<br>**Potential Causes**<br>• Check the resistance of the pressure switch contacts.<br>• Check the wiring of the connection to the pressure switch and to the CUC.<br>• Start the Test Program. If the problem persists F23 will be displayed.<br>• Check points of F08 / F12 (Failure can be caused also by Heater circuit failure). |
|  | F24 | **Overflow Failure**<br>If the overflow contact on the pressure switch is closed for more than 60” the overflow failure will be indicated. In this overflow condition, the Door will remain locked and the drain pump will run constantly.<br>**Potential Causes**<br>• Check the drain hose and make sure it is not blocked or kinked.<br>• Check Wire Harness connections to the drain pump, pressure switch, and CUC.<br>• Check/clean drain pump filter of foreign objects.<br>• Check for drain pump failure.<br>• Check the inlet valve for proper shut off.<br>• Check the pressure switch for proper operation. |
|  | F26 | **Pump Driver Failure**<br>If the CUC detects that the triac of the pump is defective it will display this failure.<br>**Potential Causes**<br>• Check the resistance of the pressure switch contacts.<br>• A failure of the pressure switch could also cause the Code.<br>• If OK. Start test program to check the CUC. If the failure occurs replace the CUC. |
|  | **Only during test program**<br>F27 | **Reversing relay failure**<br>If the CUC detects that the motor is possible to rotate only in one direction this failure is displayed.<br>**Potential Causes**<br>• Check the harness to the motor.<br>• Check the CUC. |
|  | **Only during test program**<br>F28 | **Tapped Field Failure**<br>If the CUC is not able to switch ON the tapped field of the Motor, this failure code is displayed.<br>**Potential Causes**<br>• Check if the correct motor is build in.<br>• Check the resistance of the fields of the motor.<br>• Check the harness between Motor and CUC.<br>• If the points above are OK replace the CUC. |
|  | F31 | **Blocked Drum Detected (only for Top Loader Appliances)**<br>CUC detects problems with driving of the motor at the beginning of the cycle or after pause mode when door lock have been unlocked.<br>**Potential Causes**<br>• Check if the Drum door are properly closed<br>• Check the Belt position<br>• Check the F06 Case |

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# Error Codes

| | | |
|---|---|---|
| | **Only during test program**<br>F40 | **MEB Communication Failure / Low Ambient Temperature**<br>If there is no communication between CCU and the Myst Extension Board (MEB) or if the ambient temperature is lower than 5 °C this failure Code will be displayed.<br>**Potential Causes**<br>• Check if there is power at the MEB CU2 connector.<br>• Check if the communication cable is connected to the MEB and to the UI.<br>• Check if the ambient temperature is higher than 5 °C.<br>• If the points above are OK replace the MEB. |
| | **Only during test program**<br>F41 | **MEB Control Board Failure**<br>If there is any failure detected at the Myst Extension Board (MEB) this failure Code will be displayed.<br>**Potential Causes**<br>• Check if there is power at the MEB CU2 connector.<br>• If the point above is OK replace the MEB. |
| | **Only during test program**<br>F42 | **Steamer Component Failure**<br>If there is any failure at the steamer component or steamer NTC, this failure Code will be displayed.<br>**Potential Causes**<br>• Check the harness between Steamer, NTC and MEB.<br>• Check if there is no fuse or resetable thermostat at open state.<br>• Check the electrical resistance of the Steamer Heater.<br>• Check if the NTC is not at open or short-circuit state.<br>• Check if the steamer hoses are connected.<br>• Check if the steamer tube is not blocked.<br>• If the points above are OK replace the steamer component. |
| | **Only during test program**<br>F43 | **Steam Valve Failure**<br>If there is no water supply or the steamer valve does not open this failure Code will be displayed.<br>**Potential Causes**<br>• Check if water supply for the appliance is not closed.<br>• Check if the cable between MEB and valve is connected.<br>• Check if the hoses to the valve are connected with no leakage.<br>• If the points above are OK replace the valve.<br>• Re-test the machine and if the failure persists replace the MEB. |

**Domino Class B safety functions:**

1) **Wash Level activated during selection mode:**
The Door is locked and Drain routine is started. If the Drain Pump is not defective the Door will be unlocked after Level N0 + 30seconds;
Led (display) status: normal indication
If Drain Pump is defective Pump failure will be retriven.

2) **Drum Speed is higher than 60rpm in selection mode:**
When the speed > 60 rpm, then after 4 seconds, the doorlock is activated.
Led (display) status: normal indication

3) **Water High Temperature in selection or pause mode:**
If temperature which NTC sensor is detecting is higher than 50°C Door Lock will kept locked.
Led (display) status: normal indication

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