



**WHIRLPOOL AUSTRALASIA**

**CONSUMER SERVICES**

**SERVICE MANUAL**

**FRONT LOAD  
WASHING MACHINE**

**Model AWM8143  
Version 8570 814 53100**

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This documentation is intended only for qualified technicians who possess the required qualifications and are aware of the regulatory requirements applicable to servicing electrical appliances.

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**TECHNICAL DATA****Dimensions**

Height	845	mm
Width	595	mm
Depth	620	mm

**Weight**

Nett	79	kg
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**Mains Connection**

Voltage	230 - 240	V
Frequency	50	Hz
Power consumption	2.2	kW

**Drum**

Volume	48	l
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**Capacity of dry laundry**

Cotton/coloured	6	kg
Cotton rapid	3	kg
Cotton short	6	kg
Easy care	2.5	kg
Easy care rapid	1.5	kg
Easy care short	2.5	kg
Delicate	1.5	kg
Wool	1	kg

**Water Level** (as sensed by the pressure switch)

Level 1		
Switching point	45± 5	mmWc
Reset point	30± 5	mmWc
Overflow	300 ± 20	mmWc

**Water** (level visible inside the drum)

Level 1		
Switching point	25 - 39	mm
Overflow	287 - 326	mm

**Nominal currents**

Contacts		
11 - 12	4 (4)	A
11 - 14	16 (4)	A
11 - 16	1 (1)	A

**Door lock**

Lock time (20 °C)	3 - 6	s
Unlock time	60 - 90	s
Voltage	230 - 240	V
Rated current:		
Contact 4 - 5	16 (4)	A

**Heating element**

Heating Tubular heating element with NTC - sensor

Rated Voltage	230 - 240	V
Rated power	2050	W
Resistance	22 - 28	Ω

## 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

**Inlet valve - Cold/hot fill :**

Water temp (max)	60	°C
Rated flow <1 bar	8	l/min
Pressure range	50 - 1000	kPa
Nominal voltage	220 - 240	V
Frequency	50	Hz
Minimum starting voltage:		
< 600 kPa	160	V
600 - 1000 kPa	170	V
Nominal current	35	mA
Nominal input	6	VA
Nominal (20 °C)	3.4 - 4.5	kΩ

**Drain pump (synchronous)**

Nominal Voltage	230 - 240	V
Nominal current	0,3	A
Nominal power	34	W
Frequency	50	Hz
Resistor (coil)	155 ± 7%	Ω
Motor protection	170	°C
Capacity(H=1,25m)	15 ± 2	l/min

**TECHNICAL DATA (Cont.)**

**Program timer**

Type SC1  
 Timer basic 4619 710 67641  
 Timer programmed 4619 710 69741  
 Nominal voltage 230 - .240 V  
 Frequency 50 Hz

**Harness Connectors** (See circuit diagram)

OA4.1 - OA4.2 Option 5  
 OA4.3 - OA4.4 Option 6  
 OB4.1 - OB4.2 Option 3  
 OB4.3 - OB4.4 Option 4  
 OC4.1 - OC4.2 Option 1  
 OC4.3 - OC4.4 Option 2  
 SLT3.1 - SLT3.3 Temperature selector  
 SLS4.1 - SLS4.4 Spin speed selector  
 VCF3.1 - VCF3.3 Valve (cold water)  
 VHF3.1 - VHF3.3 Valve (hot water)  
 Pi5.1 = negative supply  
 Pi5.2 = data  
 Pi5.3 = clock  
 Pi5.4 = positive supply  
 Pi 5.5 = negative supply  
 PL3.1 - PL3.3 Pilot lamp

**Connector**

M7.1 - M7.7 Motor  
 DP2.1 - DP2.2 Pump  
 SET2.1 - SET2.2 NTC  
 DSS3.1 - DSS3.3 Door switch  
 PR2.1 - PR2.2 Pressostat

**Single connector**

HE2.1 - HE2.2 Heating element  
 PS2.1 - PS2.2 Pressostat  
 SM3.2 - SM3.3 Mains switch (3 fold connector)

**Program 32 positions**

Step	Cotton / Colour	Easy care	Delicate	Wool	Silk
Pre wash	02-06	03-06	04-06	-	-
Main wash	07-21	12-21	14-21	17-21	18-21
Rinse	22-28	22-28	22-28	22-28	22-28
Spin	29-31	29-31	29-31	29-31	29-31
Stop	32	32	32	32	32

**Speeds**

Wash speed 54 rpm  
 Ramp speed 95 rpm  
 Spin speed 1400 rpm

**Ambient Temperatures**

Ambient temperature up to 70 °C  
 Storage temperature up to 85 °C

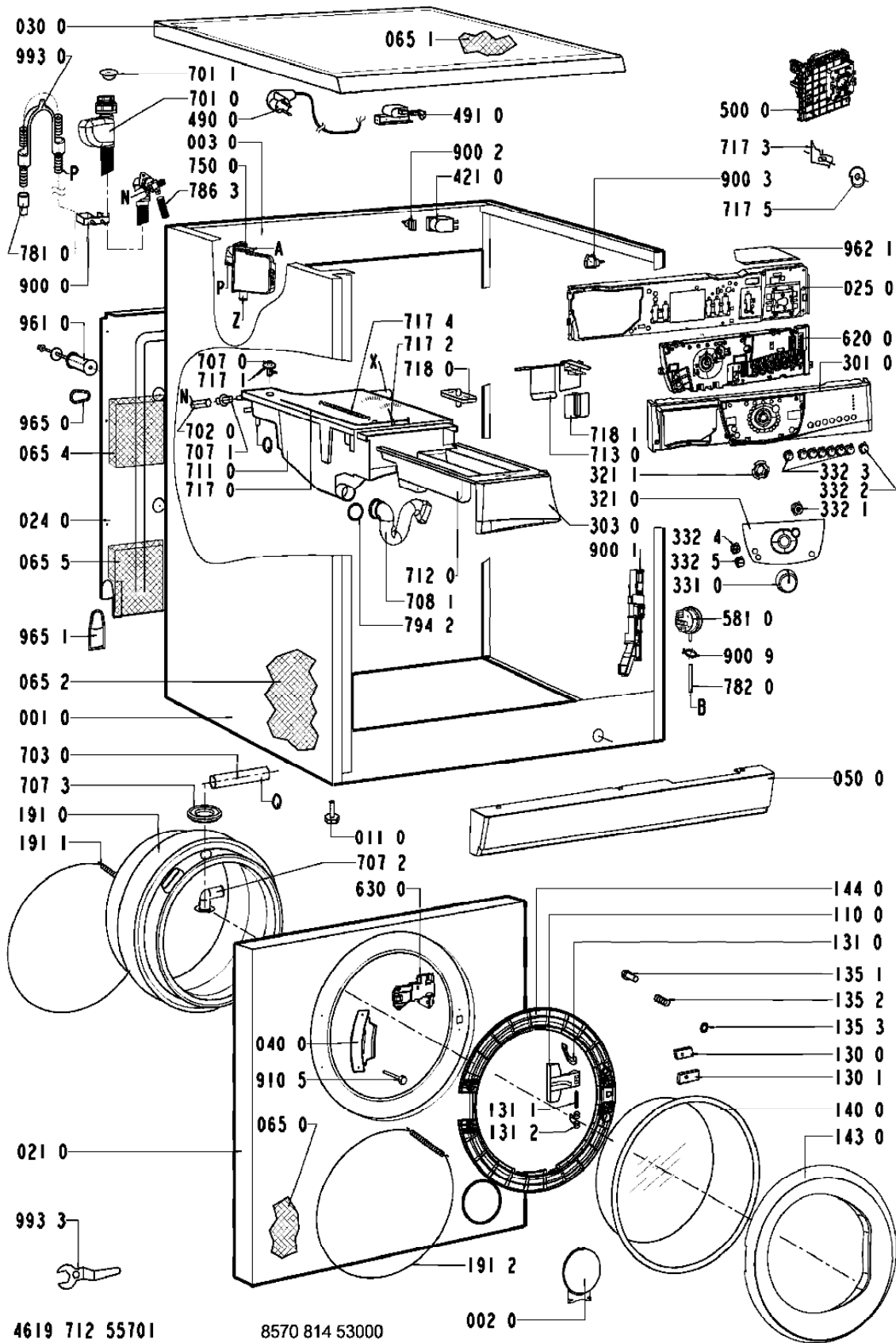
**Output**

Motor M7.6 - DSS 3.2 >40 V  
 in pump step AQ2.1 -DSS 3.2 240 V  
 NTC not measurable  
 Pump DP2.1 -DP2.2 240 V  
 Doorlock DSS3.1 -DSS 3.3 240 V  
 Pressostat E4 - E2 240 V  
 - empty PR2.1 - E2 240 V  
 - full PR2.2 - E2 240 V  
 Valve (Rast 2,5) V2.1 - V2.2 >170 V  
 Options not measurable  
 Display module Pi5.1 - Pi5. 5 V  
 Pi5.4 - Pi5.5 12 V

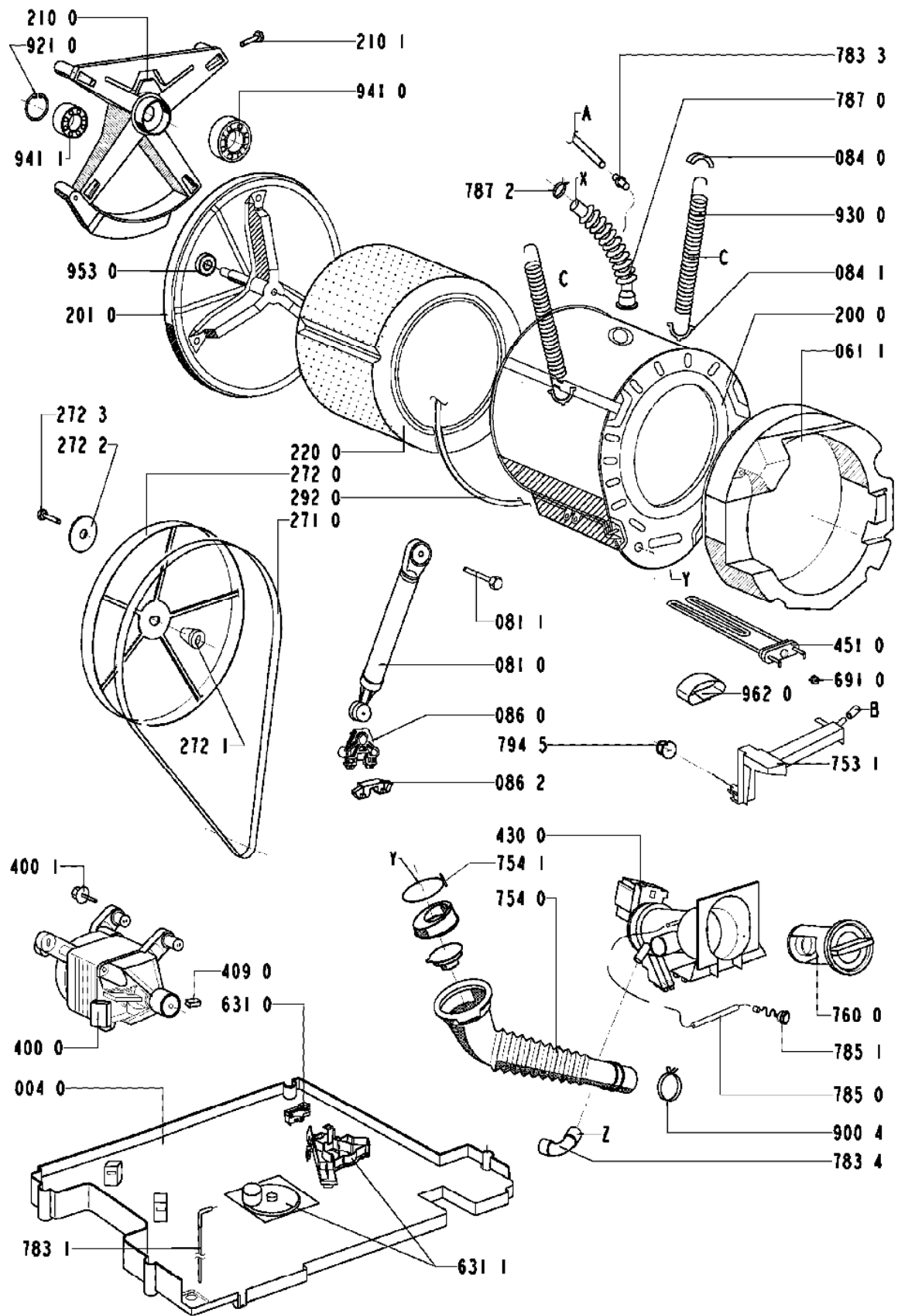
**Motor**

Type MCA61/64 - 148 t.f./BkD0  
 Belt ratio i = 1 : 12.4  
 Resistance contacts  
 6 - 7 68.7± 7% Ω  
 4 - 5 1.78± 7% Ω  
 2 - 3 1.68± 7% Ω  
 1 - 3 0.99± 7% Ω

EXPLODED VIEW - CABINET



### EXPLODED VIEW - DRUM



**PARTS LIST**

Item	Part No	Description
001 0	4812 440 18996	Cabinet
002 0	4812 440 19343	Flap
003 0	4812 464 48112	Traverse BK-cold
004 0	4812 440 18993	Drip tray assy
011 0	4812 500 18068	Foot variable
021 0	4812 440 19783	Front VBL WH
024 0	4812 440 18998	Panel, rear
025 0	4812 404 38551	Support control board VBL WH
030 0	4812 310 18586	Table top VBL WH
040 0	4812 417 18787	Hinge
050 0	4812 459 38021	Plinth OMEGA
061 1	4812 466 88464	Counter weight, SS-TUB, 1400
065 0	4812 310 18339	Insulation Front Pane
065 1	4812 310 18236	Insulation
065 2	4812 310 18399	Insulation
065 4	4812 310 18335	Insulation Middle Pane
065 5	4812 310 18336	Insulation Lower
081 0	4812 466 48057	Shock absorber
081 1	4812 502 18424	Screw damper
084 0	4812 466 58001	Anti rattle, support spring
084 1	4812 404 68021	Holder
086 0	4812 401 18409	Holder Shock Absorber
086 2	4812 401 18412	Stopper
110 0	4812 498 18139	Handle, door white
130 0	4812 417 28047	Plate Door lock
130 1	4812 417 28048	Plate Doorlock Lower
131 0	4812 417 28046	Lock Door
131 1	4812 417 28045	Pin Door Lock
131 2	4812 492 58022	Spring Door Lock
135 1	4812 498 18137	Knob Door safety
135 2	4812 492 58023	Spring Door Safety
135 3	4812 290 68153	Holder, adjustable, Door Safety
140 0	4812 450 68218	Door glass
143 0	4812 440 19782	Glassdoor frame VBL WH
144 0	4812 440 19589	Frame, door glass DE-WT
191 0	4812 466 68557	Door bellow
191 1	4812 492 18015	Strap Fix. Bellow
191 2	4812 492 98011	Strap
200 0	4812 418 18181	Tub
201 0	4812 464 48002	Bottom tub
210 0	4812 520 18034	Crosspiece
210 1	4812 452 18994	Screw M8x20 A2F
220 0	4812 418 18246	Drum 1600
271 0	4812 358 18157	Belt BK 1254 J5
272 0	4812 528 58004	Pulley



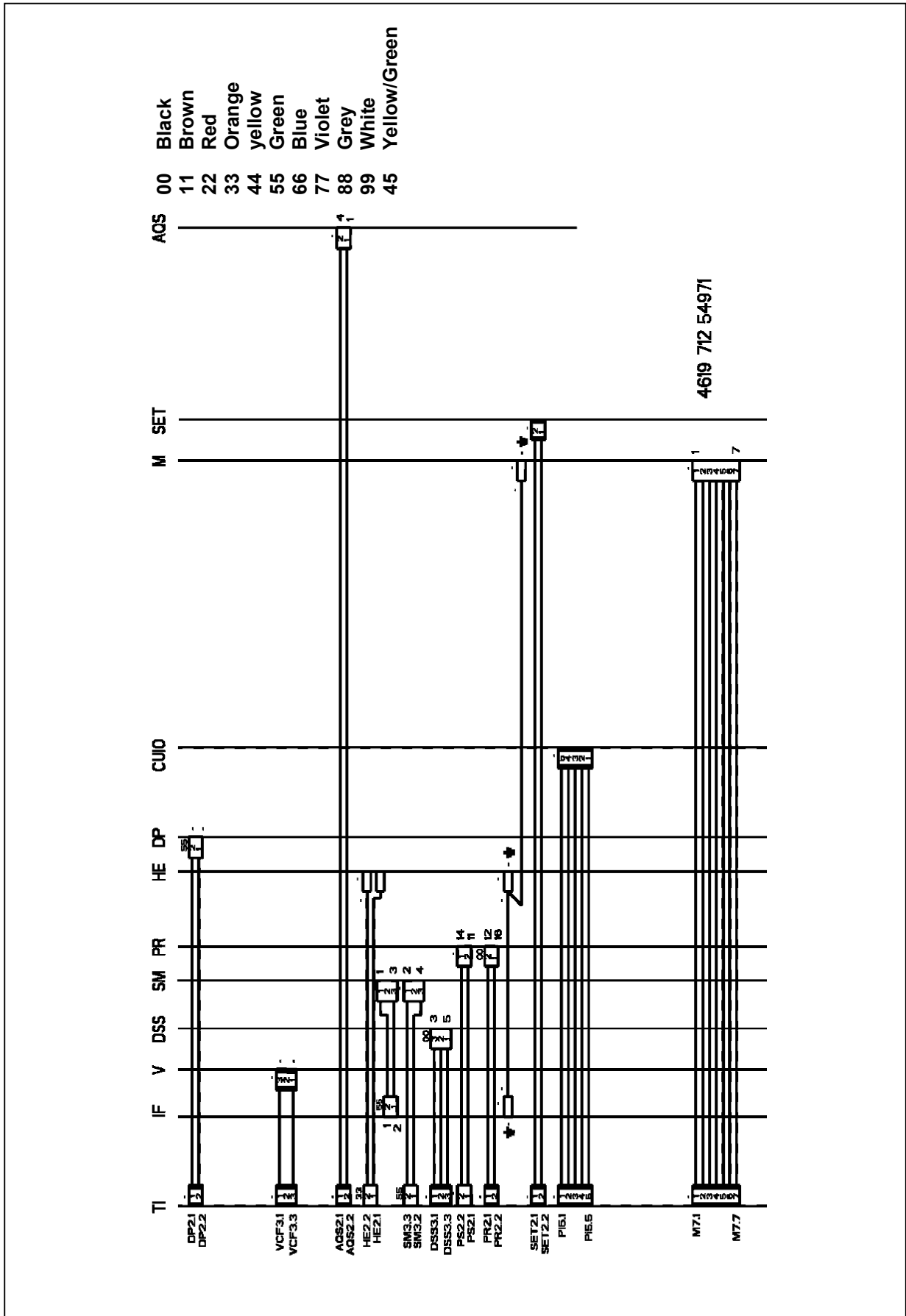
**PARTS LIST (Cont.)**

Item	Part No	Description
272 1	4812 532 28006	Bushing conical
272 2	4812 532 18024	Washer
272 3	4819 502 18417	Screw
292 0	4812 530 58003	Gasket tub bottom
301 0	4812 452 10632	Control panel
303 0	4812 498 18189	Handle, drawer VBL WH print.
321 0	4812 452 10631	Insert panel
321 1	4812 532 98011	Fastener for inlay
331 0	4812 412 78631	Knob, VBL WH electr.print
332 1	4812 513 18097	Push button Start VBL WH
332 2	4812 513 18098	Push button spin speed VBL WH
332 3	4812 513 18099	Push button option VBL WH
332 4	4812 513 18101	Push button plus VBL WH
332 5	4812 513 18102	Push button minus VBL WH
400 0	4812 361 58091	Motor MCA61/64-148-1400
400 1	4812 502 18361	Screw M8x30
409 0	4812 362 48004	Brush, carbon motor CESET
421 0	4812 121 18142	Interference filter 1,00 $\mu$ F
430 0	4812 310 38524	Drain pump
451 0	4812 259 28772	Heating element, 2050W 240V + NTC
490 0	4812 310 18404	Kit cable, mains 5m 3x1,5
491 0	4812 321 28367	Strain relief
500 0	4812 282 18804	Timer SC1, 1400
581 0	4812 271 28434	Pressostat SC1-SS
620 0	4812 239 58002	Module ""A"" C/DS
630 0	4812 280 58019	Door lock
631 0	4812 271 38358	Switch MICRO
631 1	4812 360 58112	Floater Kit BK, WH
691 0	4812 282 18702	Sensor NTC (SC1)
701 0	4812 530 28781	Hose, inlet 3,8 m (Eltek)
701 0	4819 530 28926	Hose, inlet 2,5 m (Eltek)
701 1	4819 466 69704	Gasket and filter
702 0	4819 530 29019	Hose intern
703 0	4812 530 48162	Hose
707 0	4812 526 48031	Nozzle Distribution
707 1	4812 526 48028	Nozzle
707 2	4812 530 48161	Fitting
707 3	4812 530 78011	Washer edge disc
708 1	4812 530 48141	Bend
711 0	4812 418 68166	Dispenser OMEGA-3CH
712 0	4812 418 88051	Drawer Detergent
713 0	4812 418 88019	Flap Detergent Container
717 0	4812 418 78925	Bowden cable
717 1	4812 321 38013	Lever , Nozzle
717 2	4812 321 38012	Holder,adjustable

**PARTS LIST (Cont.)**

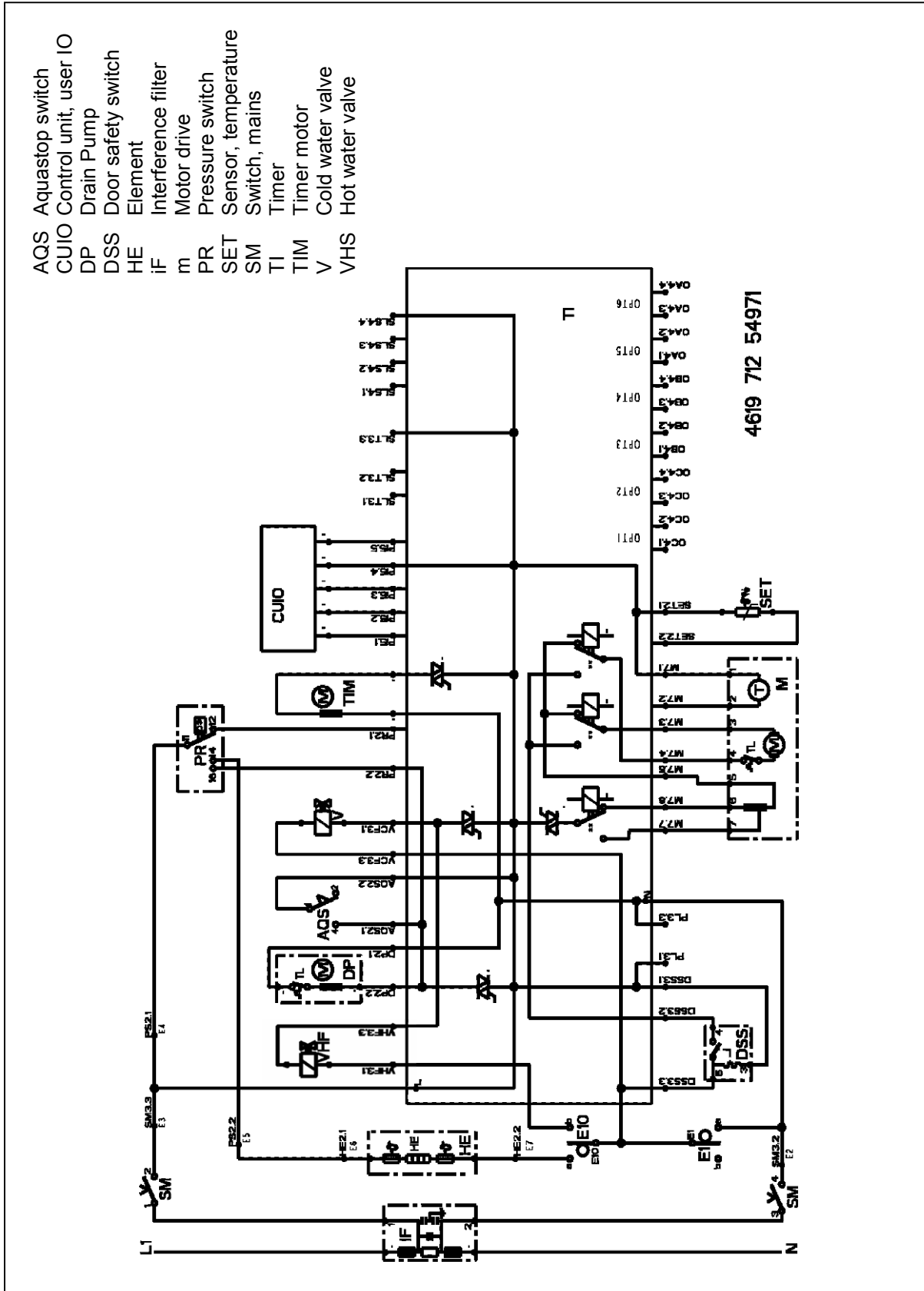
Item	Part No	Description
717 3	4812 278 88007	Slide
717 4	4812 492 38359	Spring , Nozzle
717 5	4812 282 18807	Cam 3 C. SC1/VBL/WH
718 0	4812 526 48027	Siphon 3 - Chamber
718 1	4812 418 88018	Accessory
750 0	4812 530 48139	Boiler
753 1	4812 418 68125	Chamber, air
754 0	4812 530 28838	Drainhose
754 1	4812 401 18054	Clamp, hose
760 0	4812 480 58085	Filter set pump
781 0	4819 530 28959	Hose
782 0	4812 530 28816	Hose Pressostat
783 1	4812 530 28822	Hose
783 3	4812 530 18001	Connection Part
783 4	4812 530 28818	Hose
785 0	4812 530 28812	Hose Draining
785 1	4812 462 79663	Threaded cap OMEGA
786 3	4812 530 28809	Hose Aqua-Stop
787 0	4812 530 28819	Hose with hole
787 2	4812 401 18157	Strap 32-50/9 C61
794 2	4812 530 58005	O-Ring
794 5	4812 530 58015	Gasket
900 0	4812 255 18204	Holder Hose outlet
900 1	4812 290 88043	Bracket Door lock
900 2	4812 290 88046	Cable clamp
900 3	4812 290 88048	Cable clamp
900 4	4812 401 18414	Clamp, hose
900 9	4812 401 48569	Clamp hose pressostat
910 5	4812 903 08196	Screw M 5X14-Z
921 0	4812 011 18522	Ring, circlip 52x2
930 0	4812 492 38361	Spring Suspension 1200
941 0	4812 520 28003	Bearing, ball 6306
941 1	4812 520 28005	Bearing, ball 6304
953 0	4812 530 68001	Shaft seal V 40 A
961 0	4812 395 98005	Lever, security
962 0	4812 466 38011	Cover, protect. heating element
962 1	4812 238 58001	Protector, electrical parts
965 0	4812 466 68545	Cover BK/WH
965 1	4812 440 18992	Lid Rearcover
993 0	4819 530 29028	Bow
993 3	4812 395 58004	Tool

WIRING DIAGRAM

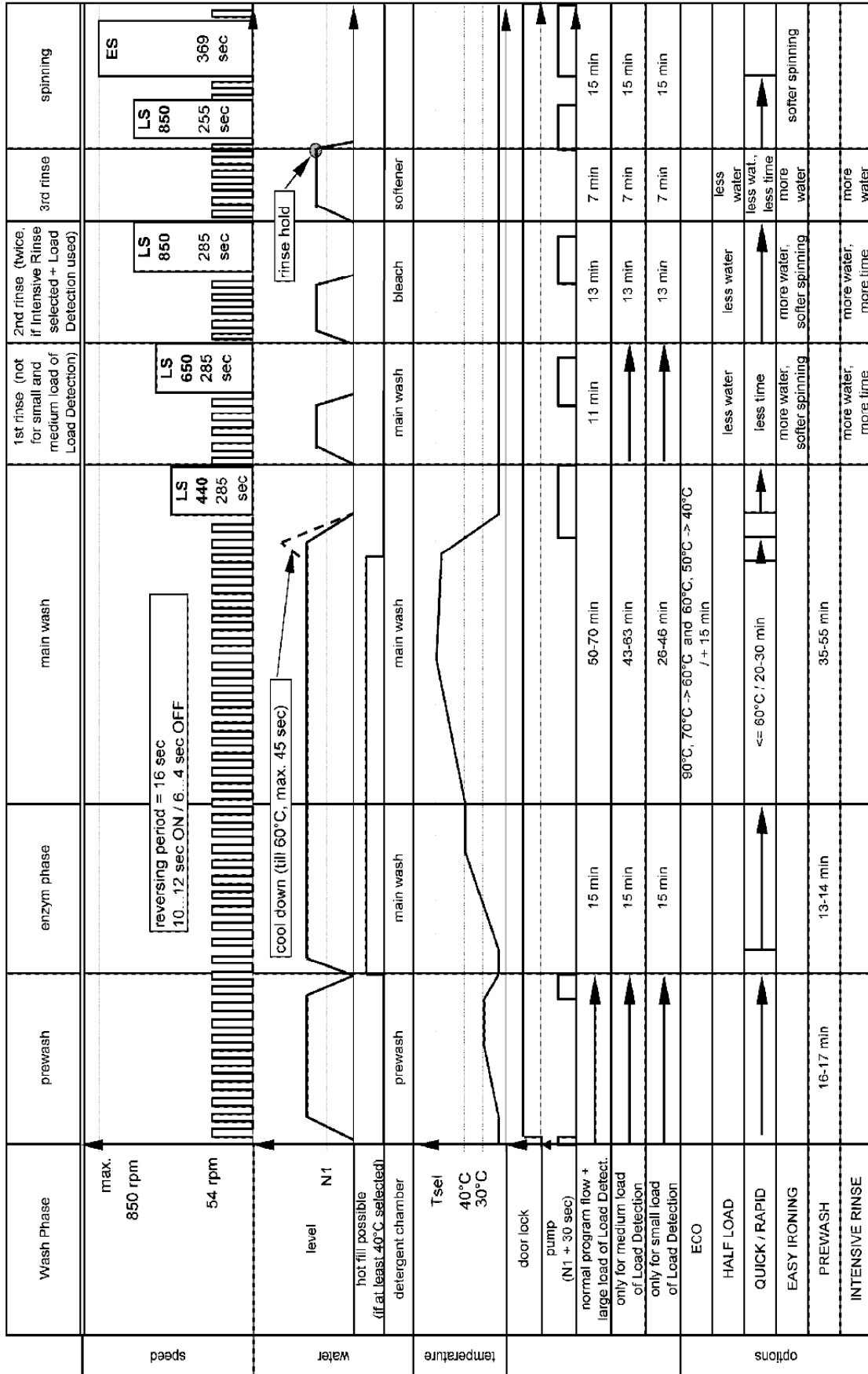


CIRCUIT DIAGRAM

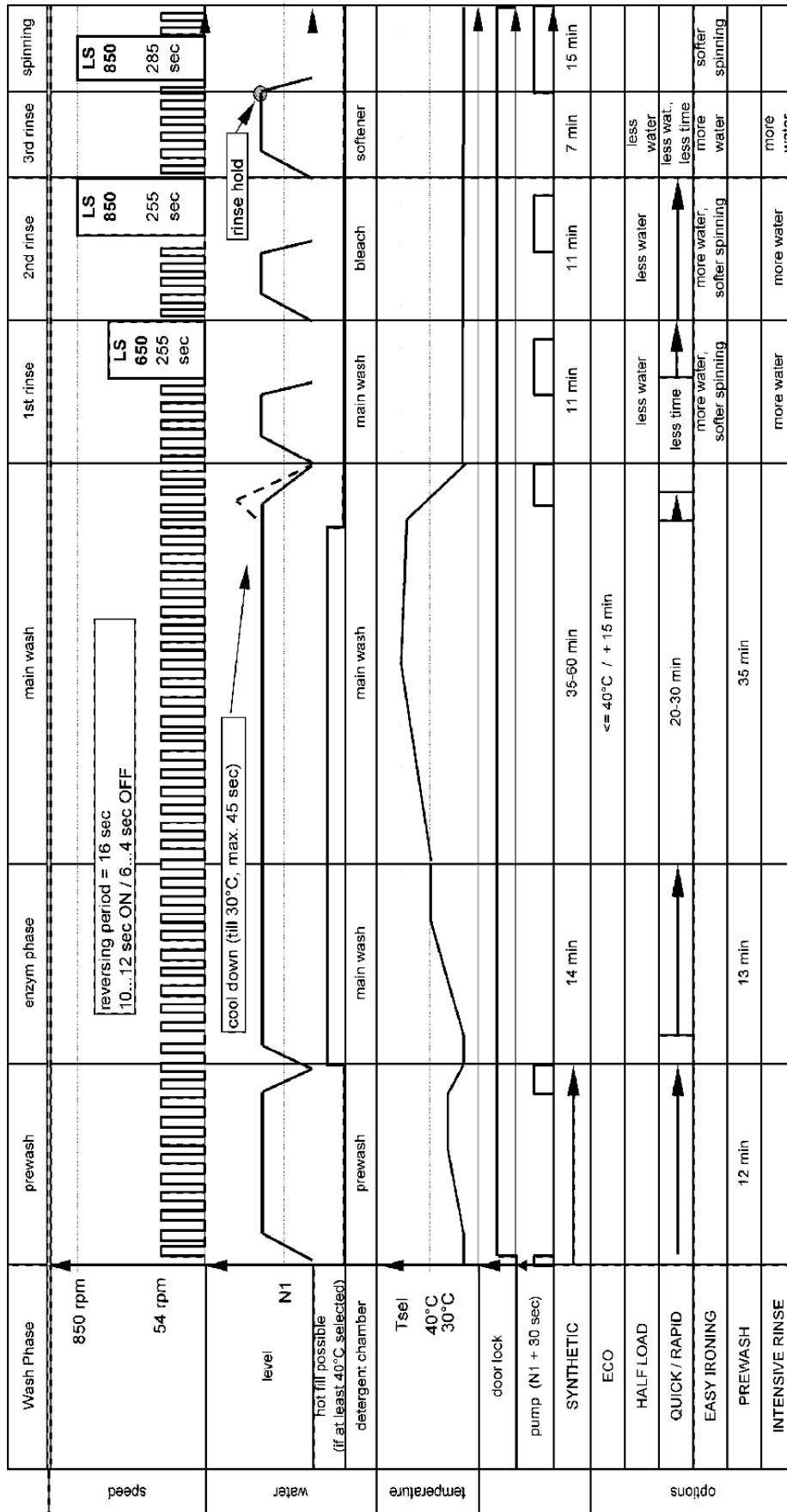
- AQS Aquastop switch
- CUIO Control unit, user IO
- DP Drain Pump
- DSS Door safety switch
- HE Element
- iF Interference filter
- m Motor drive
- PR Pressure switch
- SET Sensor, temperature
- SM Switch, mains
- TI Timer
- TIM Timer motor
- V Cold water valve
- VHS Hot water valve



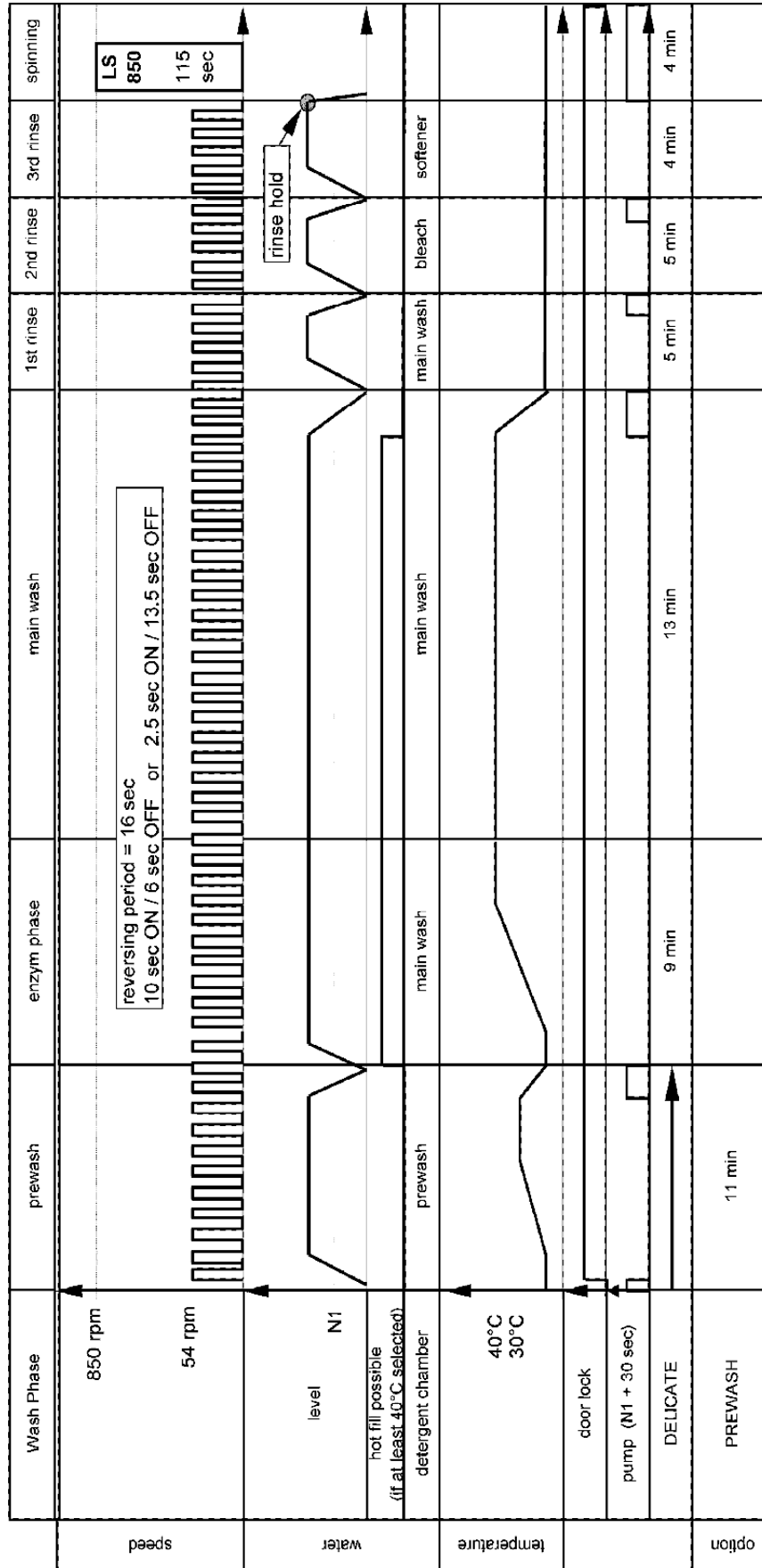
PROGRAM DIAGRAM - Cotton



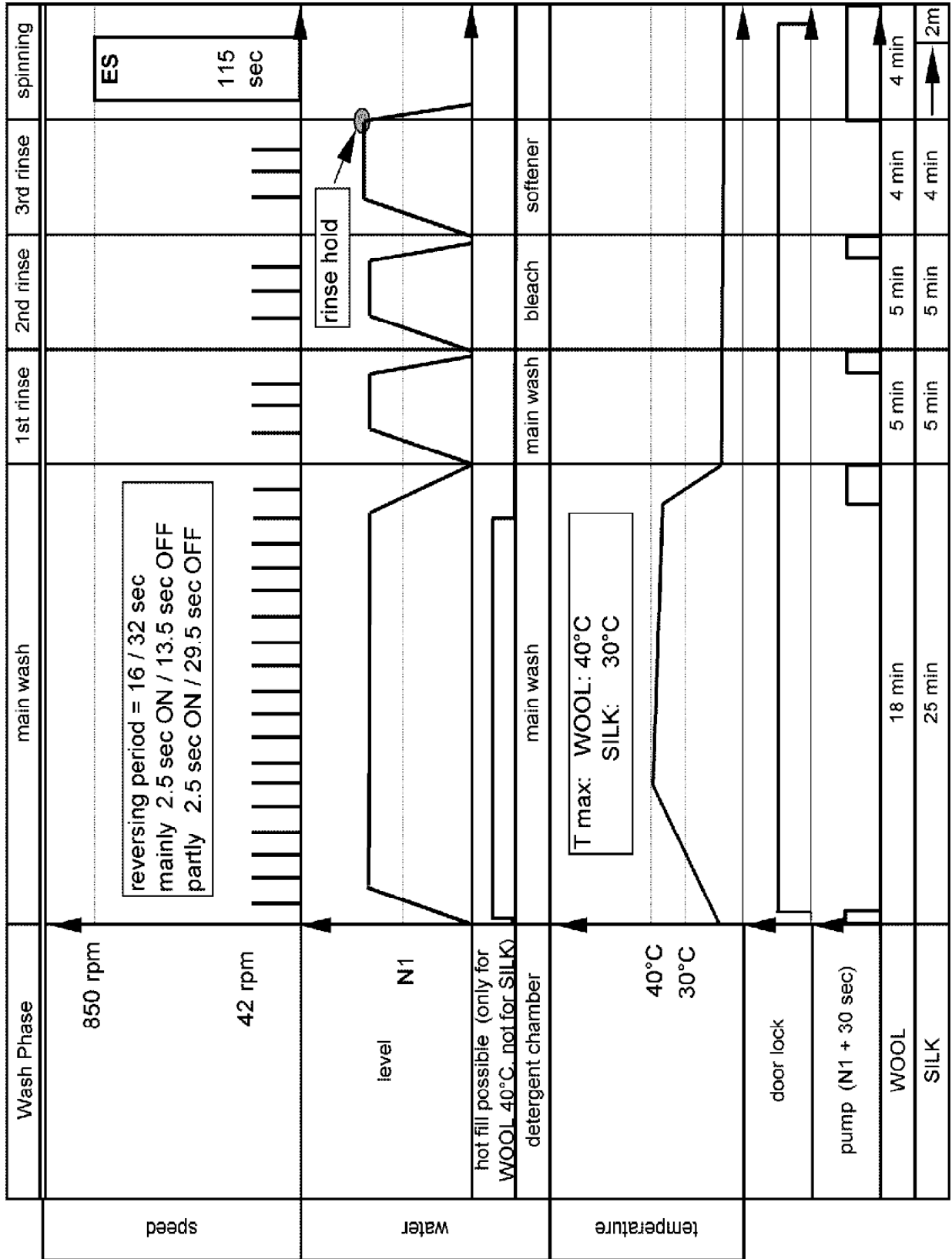
PROGRAM DIAGRAM - Synthetic



PROGRAM DIAGRAM - Delicate

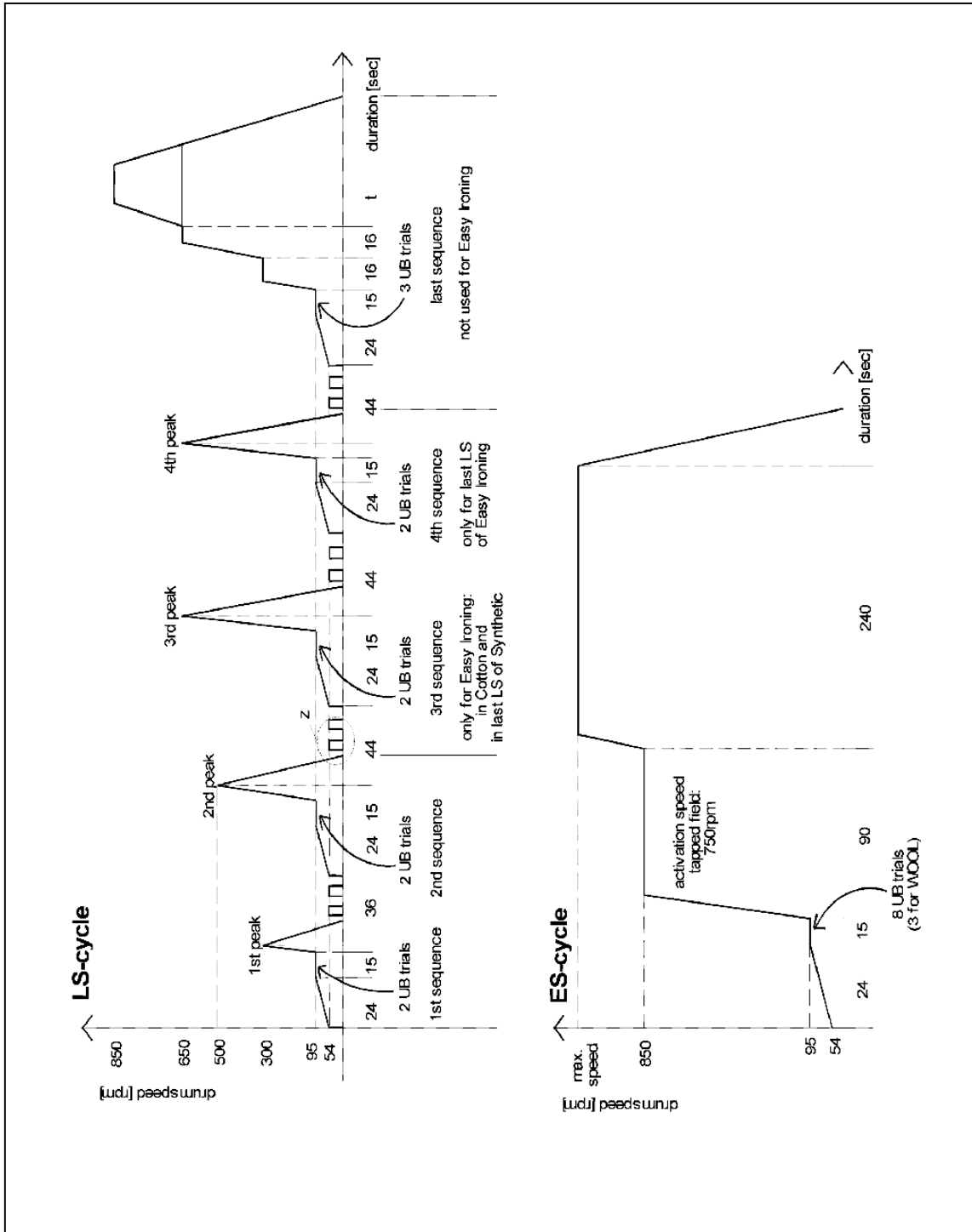


PROGRAM DIAGRAM - Wool and Silk





PROGRAM DIAGRAM - Spinning Profiles



## FAULT DIAGNOSIS

1. The diagnostic tests must be performed on the machine without a wash load because the out of balance detection system is disabled.
2. Set the cycle selector to "DRAIN" and wait for the time display to indicate "0:02".
3. Press the :
  - a) "RINSE HOLD" button twice
  - b) "INTENSIVE RINSE" button twice
  - c) "START" button once,
4. The control panel will now display :
  - Temperature 60°C (Does not change for duration of the test sequence).
  - 1400 speed LED on (Does not change for duration of the test sequence).
  - "PREWASH" programme sequence LED on
  - "WASH" programme sequence LED on
  - "RINSE" programme sequence LED on
  - "RINSE HOLD" programme sequence LED on
  - "SPIN" programme sequence LED on - (This is Step 1 in the Table over)
5. Drain pump runs for approximately six seconds and the test sequence automatically advances to Step 2.
6. By pressing the Prewash button once, the timer advances to step 3.

### Notes:

Each step of the test can be advanced by pressing the button in the next line of the "**Advance to step by pressing :**" column in the table over once without waiting for the step to complete.

e.g. When the machine starts to fill in Step 2, the "Prewash" button can be pressed once to advance to Step 3 without the 60 second fill to complete.

**TEST SEQUENCE**

Step	Advance to step by pressing : (See Note 1 below)	Pump Out or Fill Via :	Temperature	Time	Drum Rhythm	Component(s) Checked	PROGRAMME SEQUENCE LED *				
							P	W	R	RH	D
1	<i>Start</i>	Pump out	-	-	Stationary	Rinse hold and Intensive rinse buttons	●	●	●	●	●
2	<i>Advances automatically</i>	Prewash	Cold fill. No heat	60 s (fill)	Stationary	Prewash fill, Aquastop lamp (See Note 3 below)	●	●	●	●	●
3	<i>Prewash button</i>	Main wash	Warm fill. No heat.	60 s (fill)	Stationary	Prewash button and main wash fill	○	●	●	●	●
4	<i>Easy ironing button</i>	Main wash	Warm fill. (This fill cannot be bypassed) Heat to 60°C	60 s (fill) plus heating time	10 s on, 6 s off	Heating circuit, NTC, leakage	○	●	●	●	●
5	<i>Advances automatically after heating or turn temp. to 20°C (See Note 2)</i>	Main wash	Cold fill. No heat.	55 s (fill)	80 s on, 2 s off	-	○	○	●	●	●
6	<i>Eco button</i>	Fill via fabric softener	Cold fill. No heat.	60 s	80s on, 2s off	Fabric softener fill	○	○	●	●	●
7	<i>Rinse hold button</i>	Pump out	-	-	10s on, 6s off	Pump	○	○	○	●	●
8	<i>Advances automatically</i>	Pump out	-	5.5 min	Spin Max speed	Pump, spin	○	○	○	○	●
9	<i>Rinse hold button</i>	Stop	-	-	-	-	○	○	○	○	○

\*Programme Sequence LED's: P = Prewash W = Wash R = Rinse RH = Rinse Hold D = Drain

Note 1 Unless indicated by "Advances automatically", the test cycle can only be advanced by pressing the appropriate button once within five minutes, otherwise the machine will pump out and a false fault will be indicated.

Note 2. This part of the test sequence can be terminated after the fill by reducing the temperature setting to 20°C but the NTC will not be checked for accuracy.

Note 3. The Aquastop lamp will illuminate during Step 3 only.

If a failure is detected during the test sequence the timer will :

1. initiate the safety step routine :
  - A. Drain pump runs until pressure switch resets plus 30 seconds.
    - I. Main motor is turned off.
    - II. Water inlet valves are turned off.
    - III. Element is turned off
2. Stop the machine.

**FAILURE DURING NORMAL OPERATION**

If the red "AquaStop" light is on, the float switch under the unit has been actuated. Check the machine for leaks and dry the area under the float switch.

If a fault is detected during normal operation, the machine will stop, the programme sequence LED where the fault occurred will flash and the speed indicator LED's will illuminate in a pattern to indicate the fault code.

**FAULT CODES**

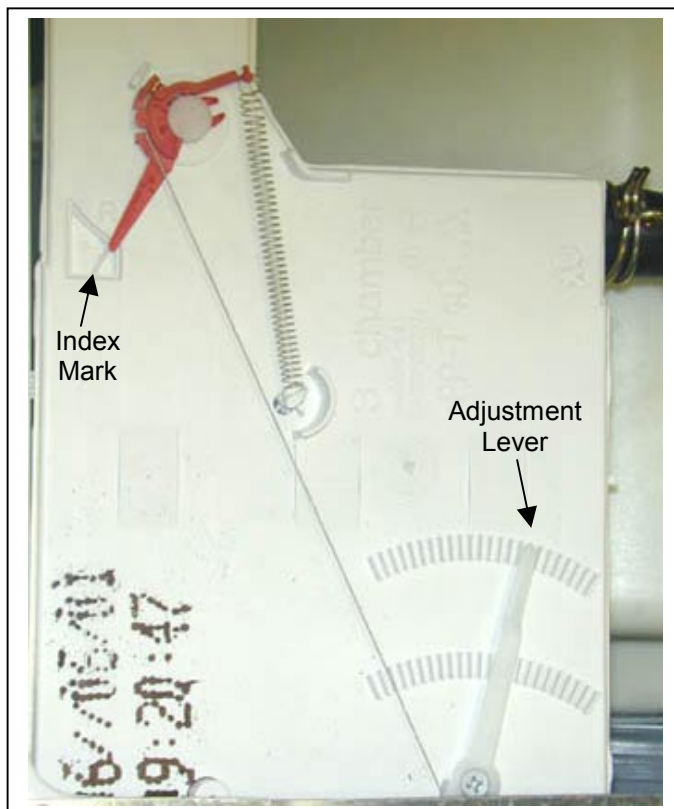
Fault	1	2	3	5	6	7	8	9	11	12	14
	FH	FA	FP	F05	F06	F07	F08	F09	F11	F12	F14
Speed	○	○	○	○	○	○	○	○	○	○	○
LED's	○	○	○	○	○	○	●	●	●	●	●
	○	○	○	●	●	●	○	○	○	●	●
	○	●	●	○	●	●	○	○	●	○	●
	●	○	●	●	○	●	○	●	●	○	○

Fault	Detected Malfunction	Perform the following:
1 FH	Water not entering or not detected	Check tap, cold inlet valve, pressure switch
2 FA	AquaStop failure	Check float switch under machine, empty any water from catchment tray, check for water leaks or oversudsing
3 FP	Drain failure or not detecting empty drum	Check pressure switch, blocked drain, drain pump
5 F05	NTC failure	Check NTC
6 F06	Tachometer failure (no motor movement detected)	Check motor
7 F07	Circuit board failure (motor triac)	Check motor, replace timer
9 F09	Overflow failure	Check drain pump, pressure switch, blocked drain
11 F11	Electronic failure	Replace timer
12 F12	Heater safety failure	Check heater and timer
14 F14	Electronic failure	Replace timer

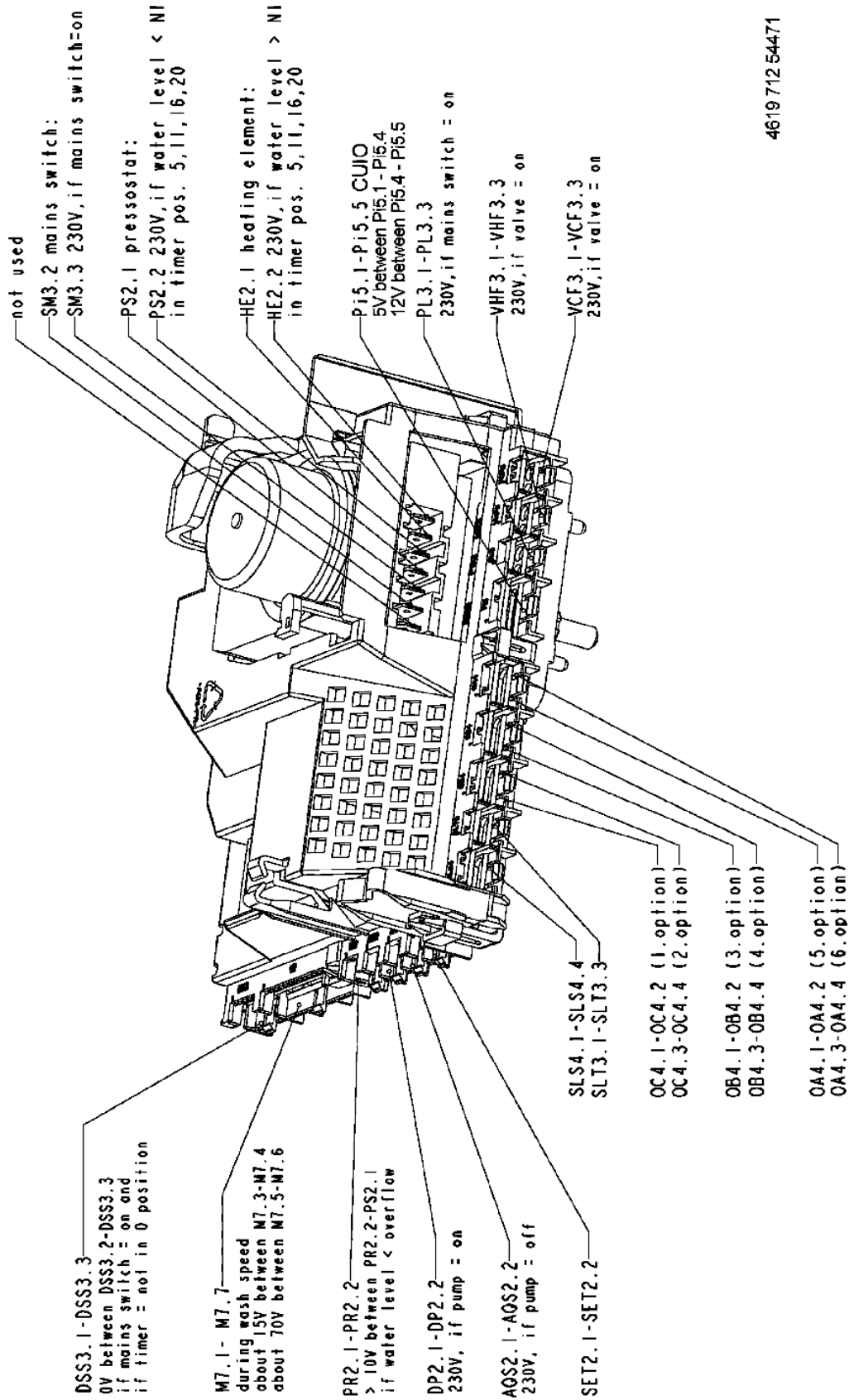
To operate the machine after the test cycle or after an indicated fault, turn the cycle selector to off then select the desired cycle and press Start.

## ADJUSTING DISTRIBUTION NOZZLE

1. Select any COTTON wash cycle with the prewash off and wait until water begins to enter machine.
2. Turn the machine off at the power point.
3. Remove the machine lid.
4. Adjust the lever until the red pointer is over the index mark.
5. Replace the machine lid, turn on the power, open the detergent drawer slightly and make sure that water is only entering the main wash (middle) compartment and that no water is entering the fabric softener compartment.



TIMER CONNECTIONS



4619712 54471