



Service Manual

Washing machine

Frontloader

AWM 6120

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	Familie	SC1



Global White

Technical data**Dimensions**

Height	85	cm
Width	59.5	cm
Depth	60	cm

Weight

Without packing	73	kg
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Main Connection

Voltage	230	V
Frequency	50	Hz
Power consumption	2.3	kW
Fuse rating	10	A

Drum

Volume	42	l
Wash spin	54	rpm
Ramp spin	95	rpm
Speed spinning max.	1200	rpm

Capacity of dry laundry

Cotton/coloured	5	kg
Cotton rapid	3	kg
Cotton short	5	kg
Daily	3	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

Level 1		
Switching point	60 ± 5	mmWc
Switching back point	35 ± 5	mmWc
Overflow	280 ± 20	mmWc

Water level inside the drum

(only switching level inside the drum)

Level 1	25 - 39	mm
Overflow	267 - 306	mm

Nominal currents

Contacts		
11 - 12	4 (4)	A
11 - 14	16 (4)	A
11 - 16	1 (1)	A
Contact system		
11 - 12 - 14	spring contact	
11 - 16	sliding contact	
Damping system	no	

Door lock

Lock time (20 °C)	3" - 6"
Unlock time	60" - 90"
Nominal voltage	230 V
Nominal current:	
Contact 4 - 5	16 (4) A

Heating element

Kind of heating	Tubular heating element with NTC - sensor	
Nominal Voltage	230	V
Nominal power	2050	W
resistance R25	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

Water temperature max.	60	°C
Rated flow <1 bar	8	l/min
Pressure range	0.5 - 10	bar
Nominal voltage	220 - 240	V
Frequency	50	Hz
Starting voltage:		
<6 bar	160	V
6 - 10 bar	170	V
Nominal current	35	mA
Nominal power	6	VA
Nominal (20 °C)	3.4 - 4.5	kΩ

Technical data

Drain pump (synchronous)

Nominal Voltage	230	V
Nominal current	0.3	A
Nominal power	34	W
Frequency	50	Hz
Resistor (coil)	155	$\Omega \pm 7\%$
Motor protection	170	$^{\circ}\text{C}$
Capacity (1.25m height)	14 \pm 2	l/min

Program timer

Type	SC1
Timer basic	4619 710 67644
Timer programmed	4619 744 83051
Nominal voltage	230 V
Frequency	50 Hz

Ambient temperature	up to 70 $^{\circ}\text{C}$
Storage temperature	up to 85 $^{\circ}\text{C}$

Connector

OA4.1 - OA4.2	5. Option
OA4.3 - OA4.4	6. Option
OB4.1 - OB4.2	3. Option
OB4.3 - OB4.4	4. Option
OC4.1 - OC4.2	1. Option
OC4.3 - OC4.4	2. Option
SLT3.1 - SLT3.3	Temp.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
AQS2.1 - AQS2.2	Aquastopswitch
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)

Spin speed

Wash speed	54	rpm
Ramp speed	95	rpm
Spin speed	1200	rpm

Resistance (at the selector)

1160 rpm	4.7	k Ω
960 rpm	3.6	k Ω
780 rpm	2.7	k Ω
580 rpm	1.8	k Ω
440 rpm	1.1	k Ω
95 rpm	0.68	k Ω
0	0	

Without resistor on push button switch

released	1160	rpm
pushed	580	rpm

Output

Motor	M7.6 - DSS3.2	>40 V
Aquastop	AQ2.2 - DSS3.2	230 V
in pump step	AQ2.1 - DSS3.2	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	
Display module	Pi5.1 - Pi5.4	5 V
	Pi5.4 - Pi5.5	12 V

Motor

Type	MCA 52/64 - 148 t.f./ WHE 0
Belt ratio	i = 1:13.3

Resistance contacts

6 - 7	68.7	$\Omega \pm 7\%$
4 - 5	2.15	$\Omega \pm 7\%$
5 - 6	1.46	$\Omega \pm 7\%$
5 - 7	0.65	$\Omega \pm 7\%$

Radio interference supression

Type	ISKRA - KPB 7325
Nominal voltage	230 V
Nominal capacity	250 nF X1+2x22 nF Y2
Derivation current	≥ 4.15 mA (2x2.075 mA) at 250V 50Hz
Nominal resistance	1 M $\Omega \pm 5\%$

Technical data

Push button switch

Switch start	SST
Switch easy ironing	SEI
Switch eco	SEC
Switch pre wash	SPW
Switch rinse intensive	SRI
Switch rinse stop	SRS
Switch spin reduction	SSR

Indication

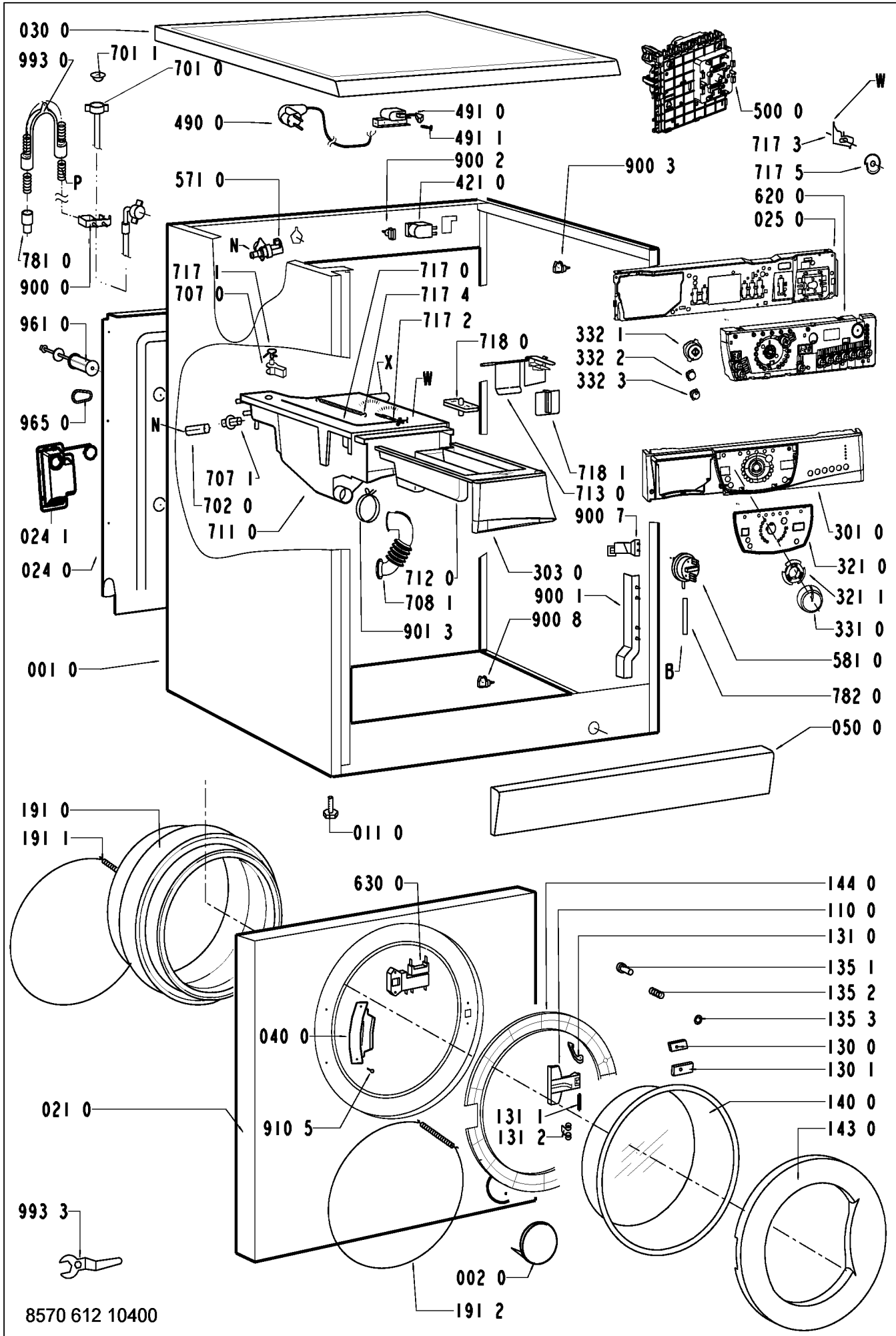
- Remaining time indication

Spare part list

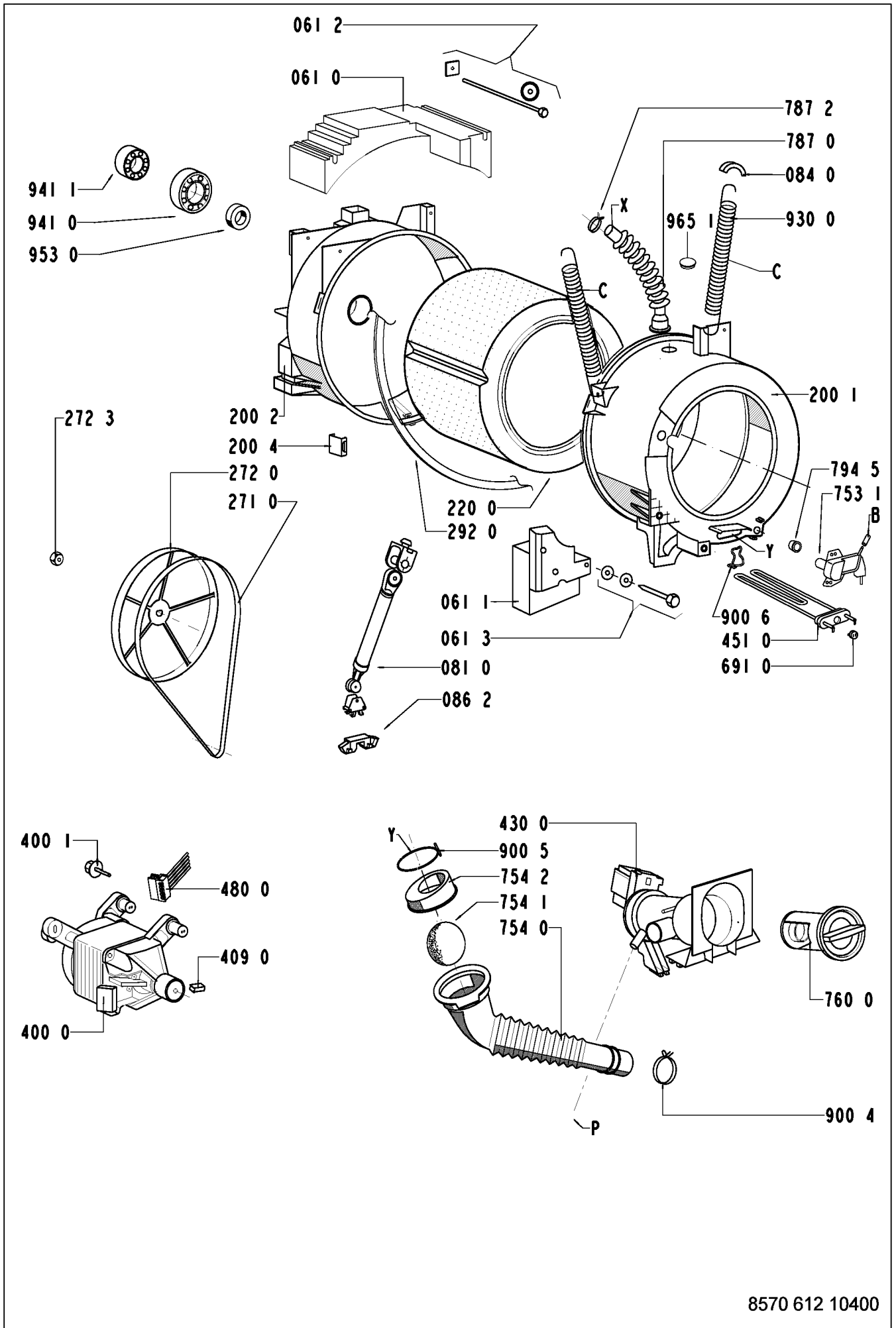
Model **AWM 6120**
Service No. **857061210400**
Version **857061210400**

Pos. No.	12NC Code	Description	Pos. No.	12NC Code	Description
001 0	4812 440 10784	Cabinet GW	480 0	4812 321 78109	Cable Motor SC1/OM PP/ALPHA/GA
002 0	4812 440 10778	Flap round GW	490 0	4819 321 18136	Cable,mains 2m SA
011 0	4812 462 48421	Adjust.foot	491 0	4812 321 28367	Strain relief
021 0	4812 440 10783	Front round Flap GW 25mm	491 1	4812 502 38152	Screw 4.8x19
024 0	4819 440 19892	Panel, rear	500 0	4812 282 19729	Timer SC1 (EI,EC,PW,IR,RH)
024 1	4819 418 79837	Box hose	571 0	4812 271 28375	Valve,magnet Single
025 0	4812 404 38559	Support control board 25 mm	581 0	4812 271 28441	Pressostat
030 0	4812 310 18936	Table top VBL 42l GW	620 0	4812 239 58001	Module Timer B C/DS
040 0	4812 417 18787	Hinge	630 0	4812 280 58019	Door lock
050 0	4812 440 10779	Plinth GW	691 0	4812 282 18702	Sensor NTC(SC1,OMEGA PL,Access)
061 0	4812 466 88458	Counter weight upper	701 0	4819 530 28848	Hose, inlet
061 1	4812 466 88607	Counter weight front	701 1	4819 466 69704	Gasket and filter
061 2	4819 310 39227	Mounting kit Weight top	702 0	4819 530 29019	Hose intern
061 3	4819 310 39228	Mounting kit Weight bottom	707 0	4812 526 48033	Nozzle Distribution 4
081 0	4812 529 18038	Shock absorber until 1200	707 1	4812 526 48028	Nozzle
084 0	4812 466 58001	Silent bloc	708 1	4812 530 48143	Bend
086 2	4812 401 18412	Stopper	711 0	4812 418 88052	Detergent disp.
110 0	4812 498 18261	Handle,door GW	712 0	4812 418 79703	Drawer 4 VBL ASS
130 0	4812 417 28047	Plate Door lock	713 0	4812 418 88028	Flap Detergent Cont.
130 1	4812 417 28048	Plate Doorlock Lower	717 0	4819 321 28092	Bowden cable
131 0	4812 417 28046	Lock Door	717 1	4812 321 38013	Lever , Nozzle
131 1	4812 417 28045	Pin Door Lock	717 2	4812 321 38012	Holder,adjust.
131 2	4812 492 58022	Spring Door Lock	717 3	4812 278 88018	Slide
135 1	4812 498 18262	Knob Door safety GW	717 4	4812 492 38359	Spring , Nozzle
135 2	4812 491 48004	Spring	717 5	4812 282 18806	Cam 4 C. SC1/VBL/WH
135 3	4812 290 68153	Holder,adjust. Door Safety	718 0	4812 526 48051	Siphon
140 0	4812 450 68219	Door glass	718 1	4812 418 89022	Separator 4ch
143 0	4812 440 10817	Glassdoor frame VBL WH GW	753 1	4819 418 68234	Chamber,air
144 0	4812 440 10833	Frame,door glas GW	754 0	4812 530 28826	Drainhose
191 0	4812 460 68527	Door bellow standard	754 1	4812 530 28832	Lock eco
191 0	4812 460 68532	Door bellow WH grease resistance	754 2	4812 530 28829	Flange eco
191 1	4812 492 18017	Strap	760 0	4812 480 58105	Filter set pump
191 2	4819 530 58059	Ring	781 0	4819 530 28847	Hose,draining
200 1	4812 418 18475	Tub 42l front	782 0	4812 530 28827	Hose Pressostat
200 2	4812 418 18318	Tub 48 l rear	787 0	4812 530 28813	Steam hose
200 4	4812 290 88054	Clamp for tub	787 2	4819 401 18868	Clamp,hose 26.8 mm
220 0	4819 418 18379	Drum 42l, 1200	794 5	4812 530 58098	Gasket Airtrap
271 0	4812 358 18056	V-ribbed belt WH 1250 J5	900 0	4812 255 18204	Holder Hose outlet
272 0	4812 528 58027	Pulley DIAM.298	900 1	4812 290 88049	Bracket
272 3	4812 505 18371	Nut M 12	900 2	4812 290 88077	Cable clamp
292 0	4812 530 58101	Gasket Tub	900 3	4812 401 18446	Cable clamp
301 0	4812 452 14419	Control panel AWM 6120	900 4	4819 401 18872	Clamp,hose
303 0	4812 498 78621	Handle, drawer	900 5	4819 401 18529	Clamp,hose
321 0	4812 452 14421	Insert panel	900 6	4812 401 18444	Support Heatingelement
321 1	4812 532 98011	Fastener f. Inlay	900 7	4812 255 18205	Holder Pressostat
331 0	4812 414 58201	Knob,timer VBL WH GW	900 8	4819 401 18823	Clamp
332 1	4812 513 18126	Push button Start VBL WH GW	901 3	4812 401 18414	Clamp,hose
332 2	4812 513 18127	Push button spin speed VBL WH GW	910 5	4812 502 18516	Screw 4,2 x 13
332 3	4812 513 18128	Push button option VBL WH GW	930 0	4819 492 38139	Spring Suspension
400 0	4812 361 58094	Motor 1000,1200 MCA52/WHEO	941 0	4812 520 28004	Bearing,ball 6206
400 1	4812 502 18401	Screw M8X 35	941 1	4812 520 28066	Bearing,ball 6204
409 0	4812 362 48004	Brush,carbon motor CESET	953 0	4812 530 58099	Shaft seal 1200
421 0	4812 121 18142	Interf.filter 1,00 µ F	961 0	4819 532 68829	Spacer
430 0	4812 310 28144	Pump,draining KIT	965 0	4812 466 68545	Cover BK/WH
451 0	4812 259 28835	Heating element 2050W,230V + NTC	965 1	4812 462 78165	Threaded cap
			993 0	4819 530 29028	Bow
			993 3	4812 395 58004	Tool

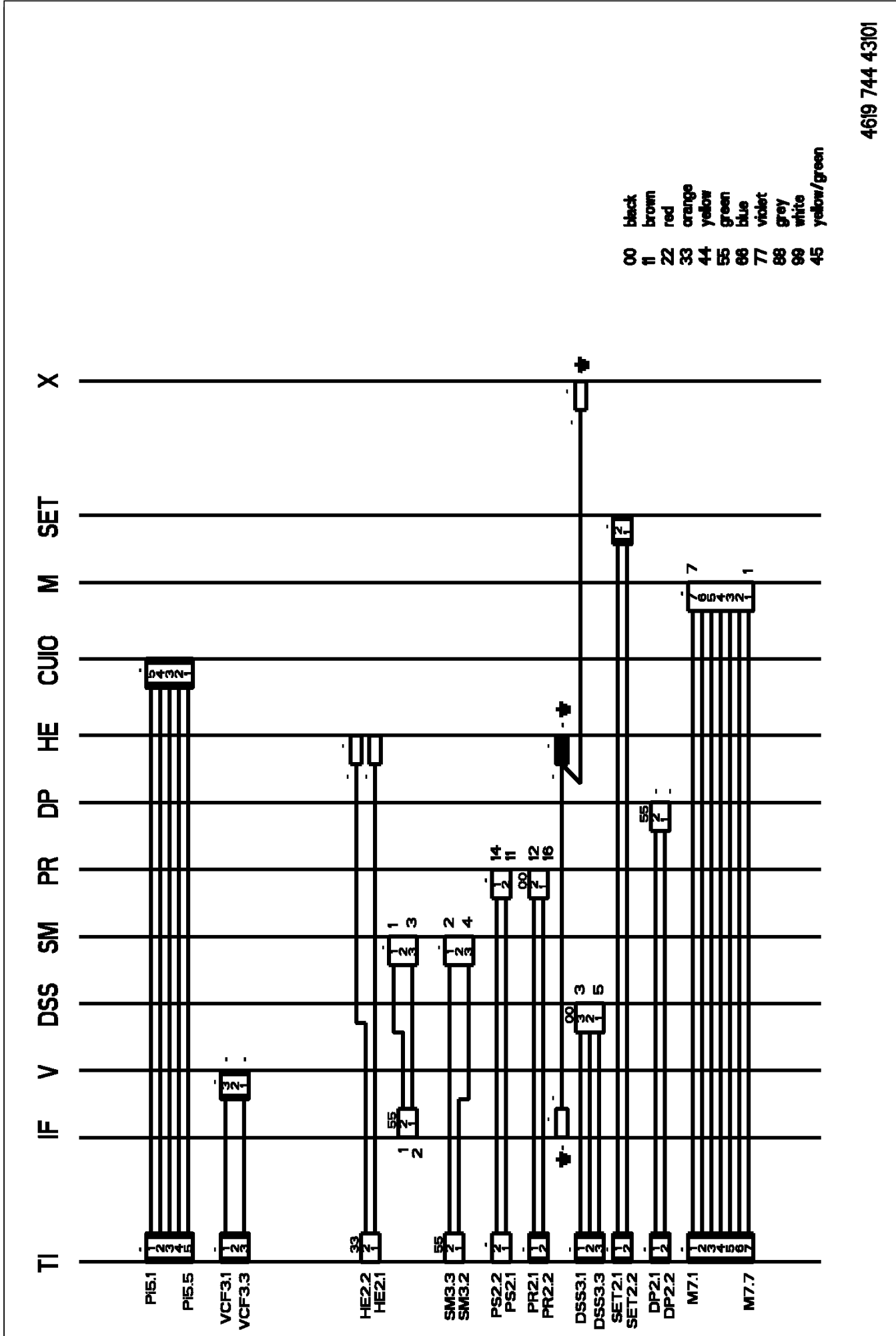
Exploded view



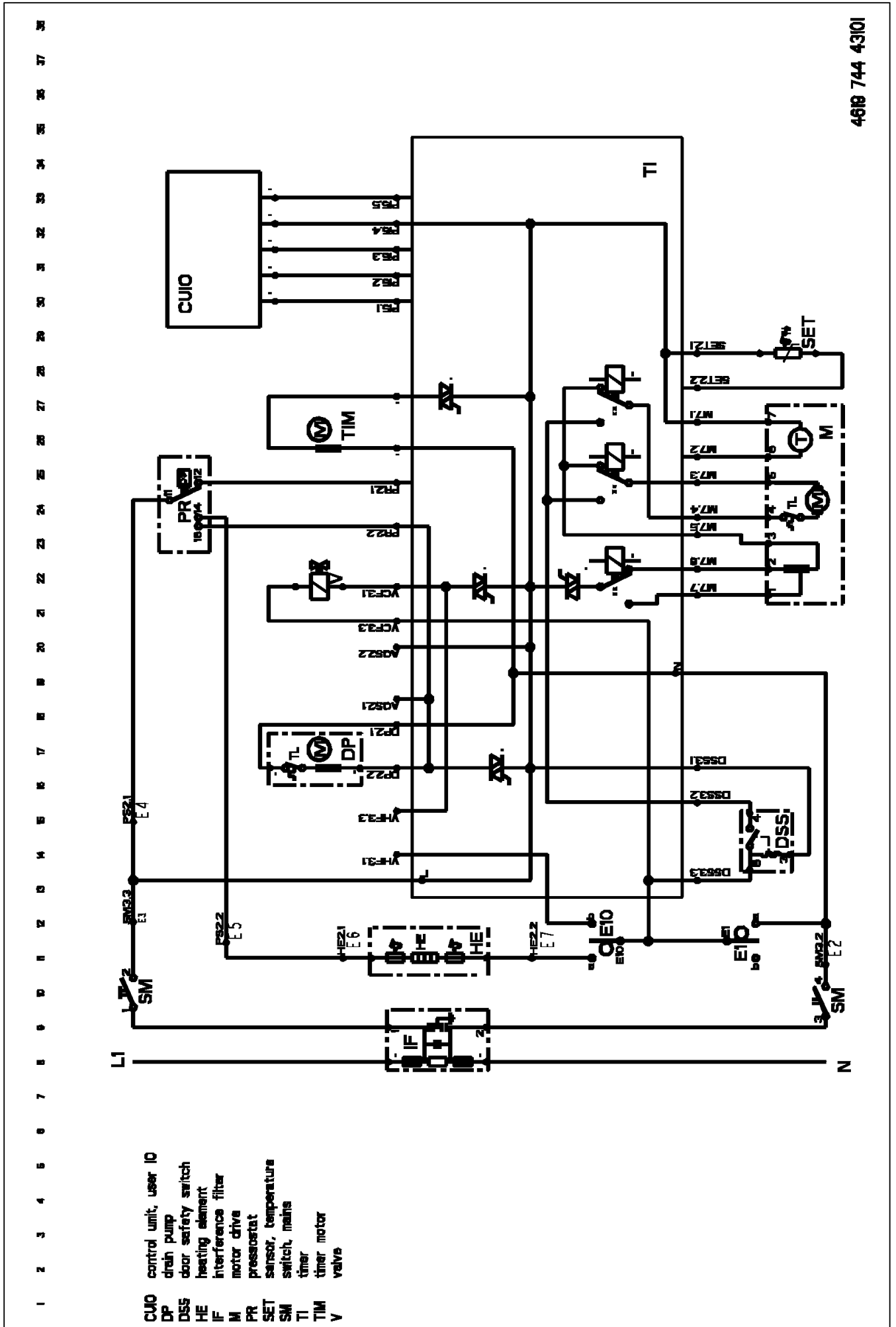
Exploded view



Wiring diagram



Circuit diagram



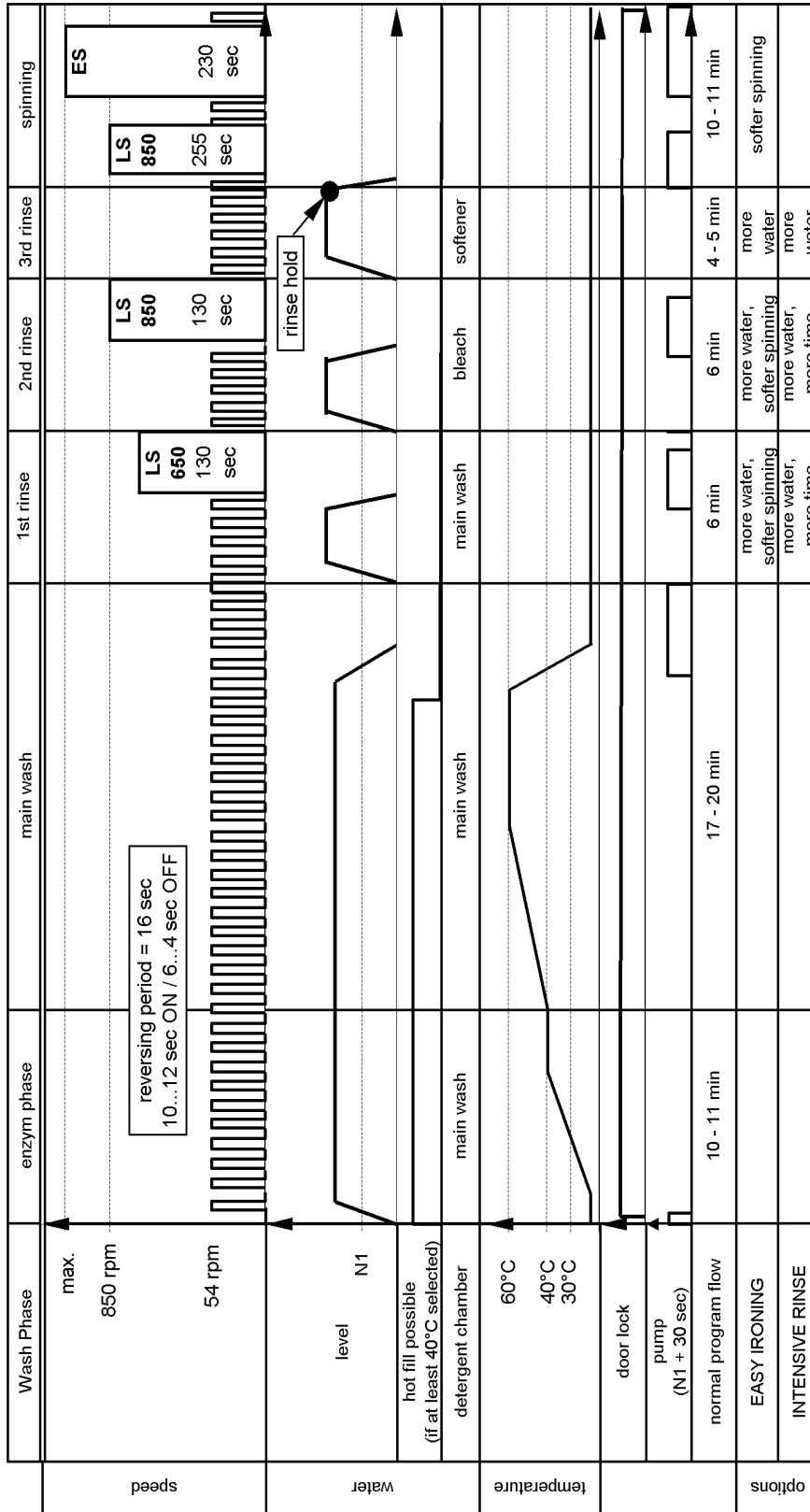
- 1
 - 2
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 - 32
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 - 34
 - 35
 - 36
 - 37
 - 38
- CUJO control unit, user IO
 - DP drain pump
 - DSS door safety switch
 - HE heating element
 - IF interference filter
 - M motor drive
 - PR pressostat
 - SET sensor, temperature switch, mains
 - SM switch, mains
 - TI timer
 - TIM timer motor
 - V valve

4618 744 43101

Program chart

4619 744 62701

Delta SC1/ALPHA Wash Cycle of CHRONO/DAILY

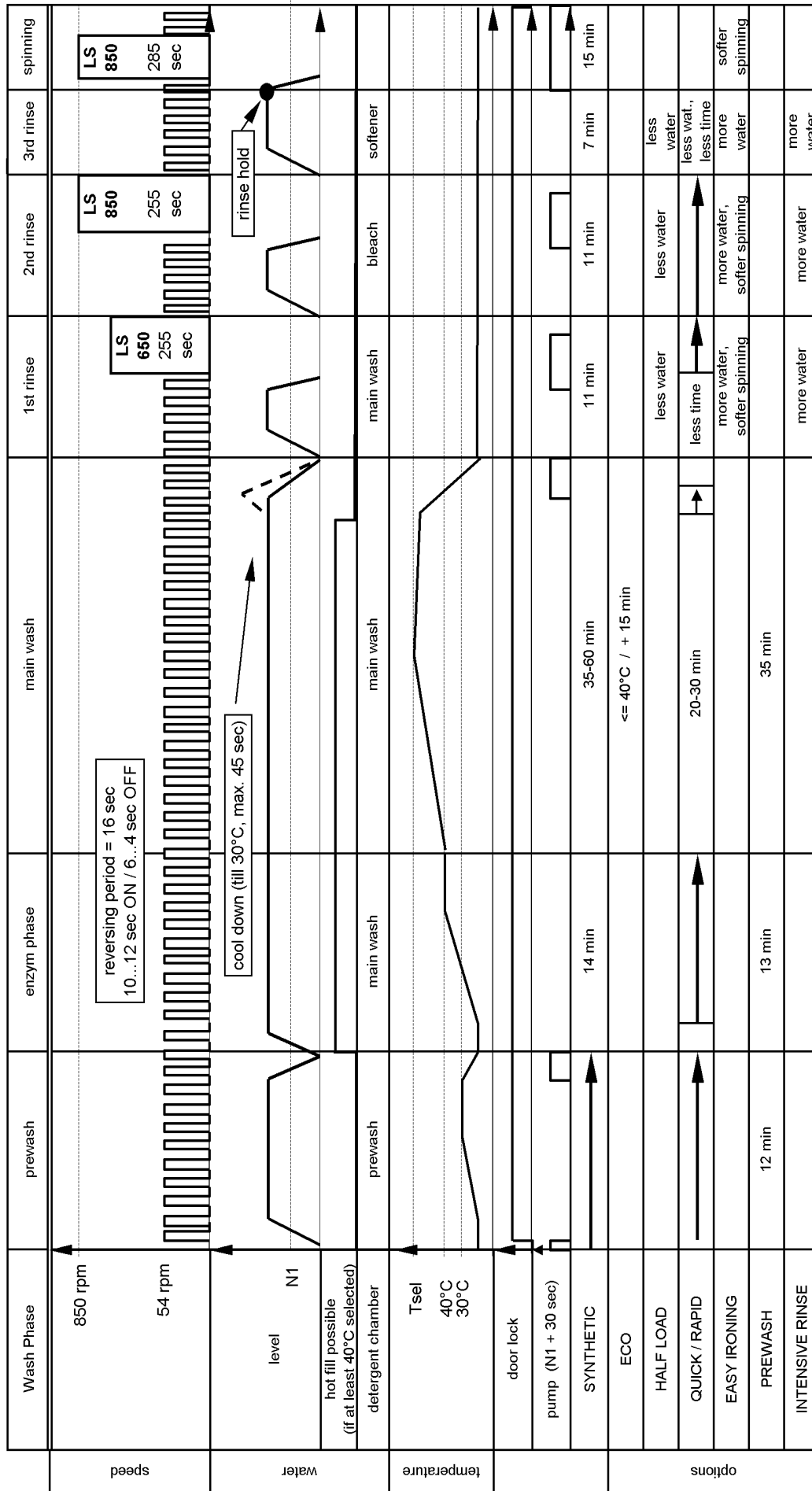


Program chart

4619 744 62701

Wash Cycle of SYNTHETIC

Delta SC1/ALPHA

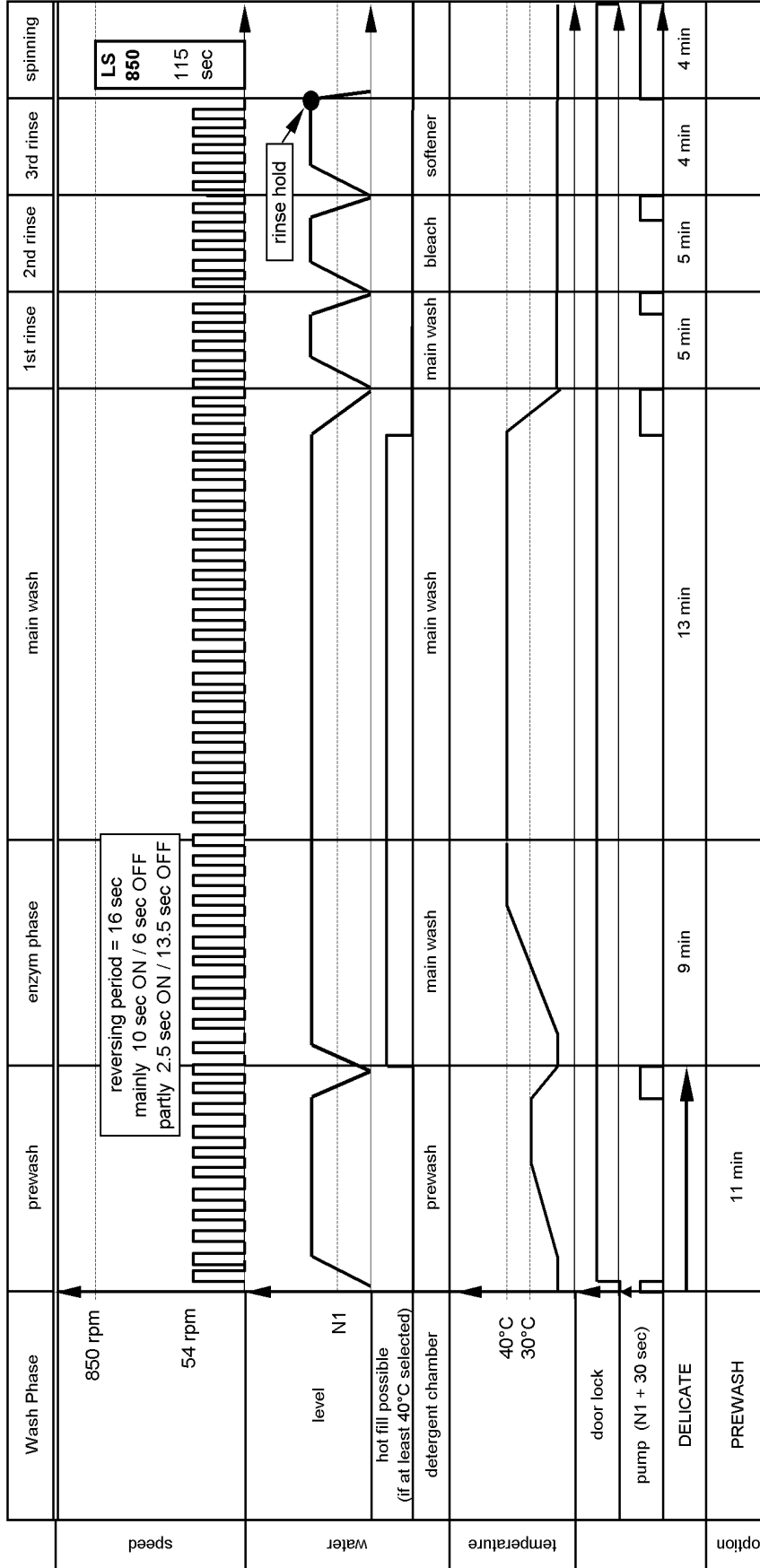


Program chart

4619 744 62701

Wash Cycle of DELICATE

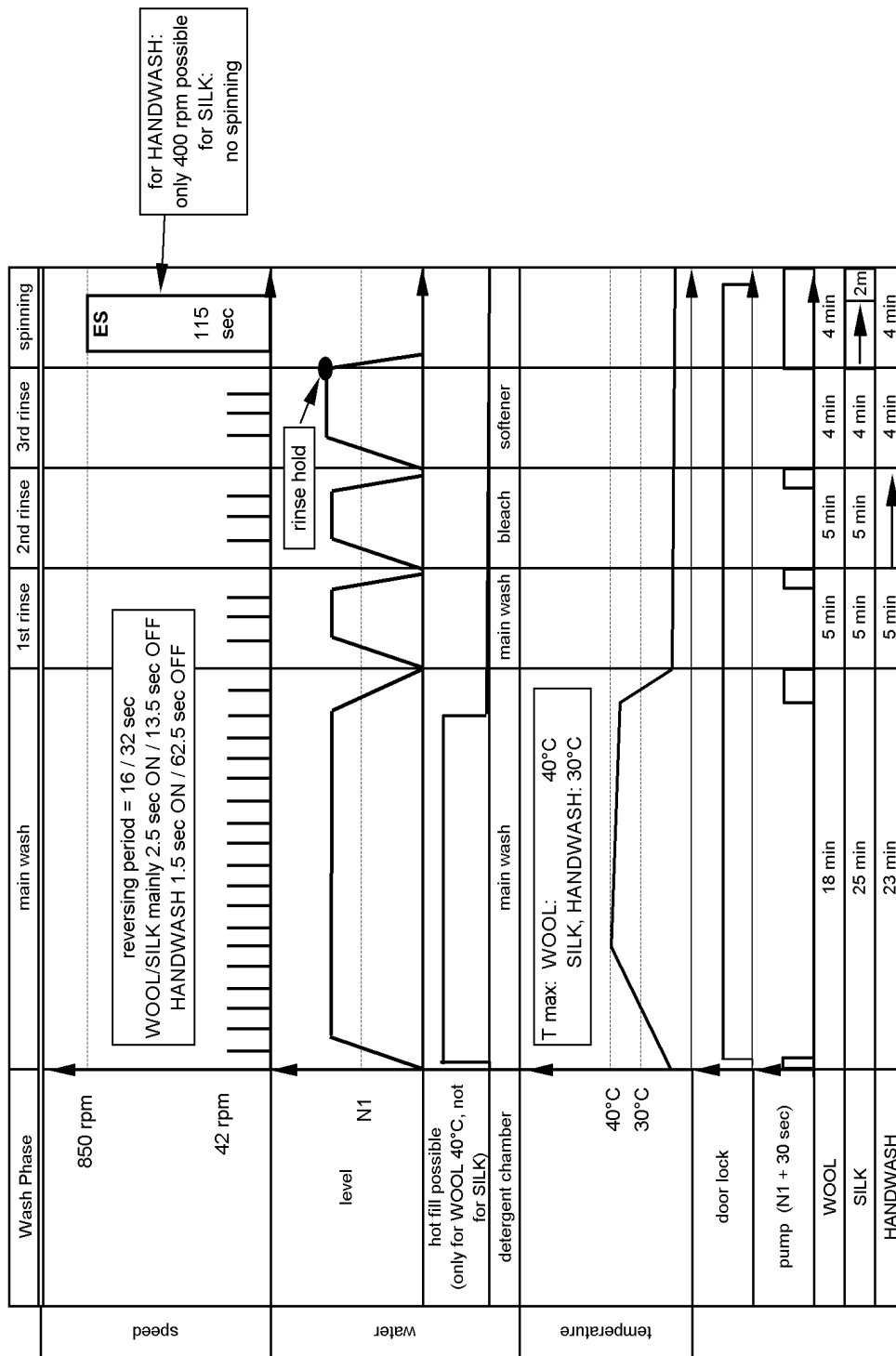
Delta SC1/ALPHA



Program chart

4619 744 62701

Delta SC1/ALPHA Wash Cycles of WOOL, SILK and HANDWASH

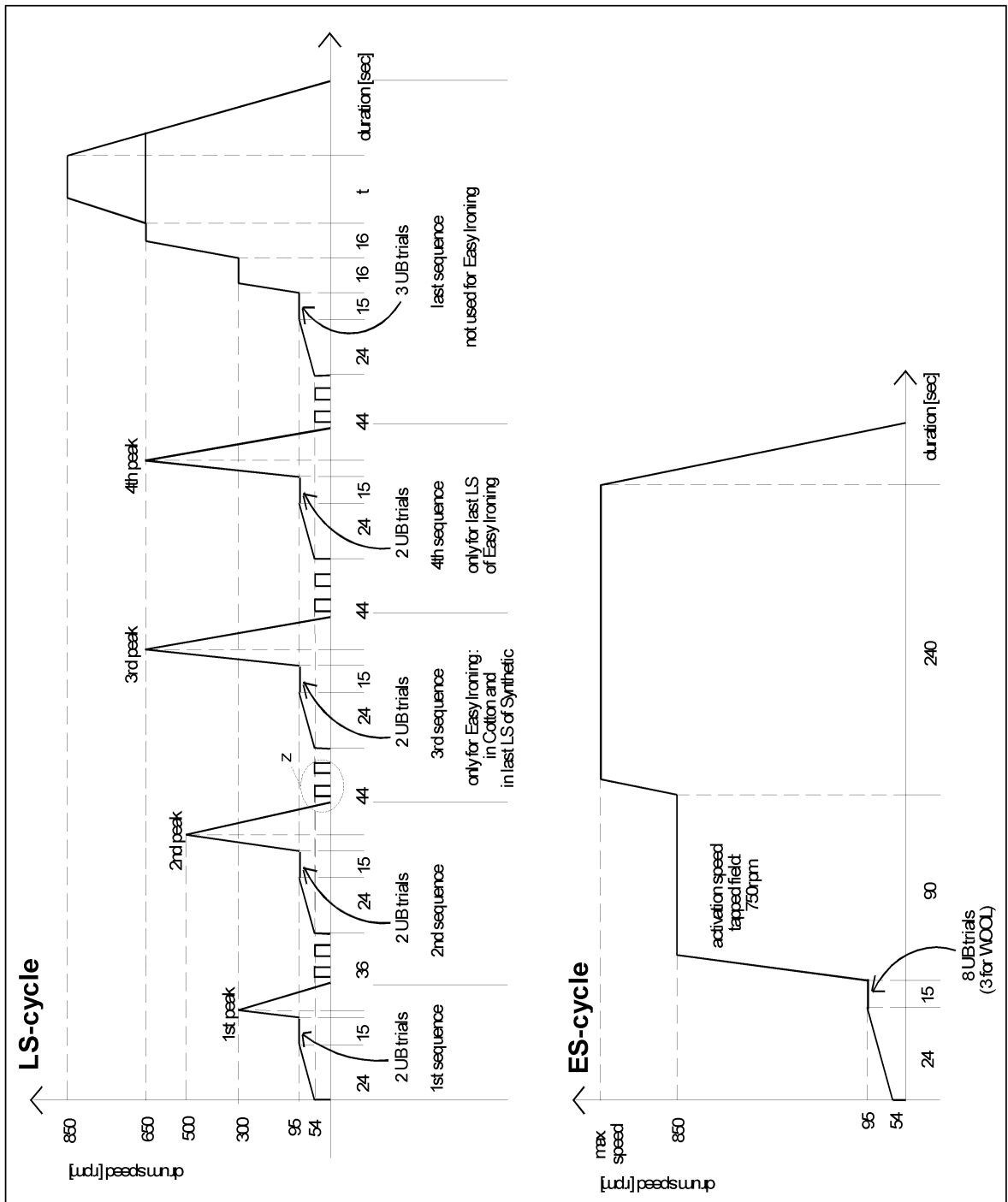


Program chart

Delta SC1/ALPHA

Spinning Profiles

4619 744 62701



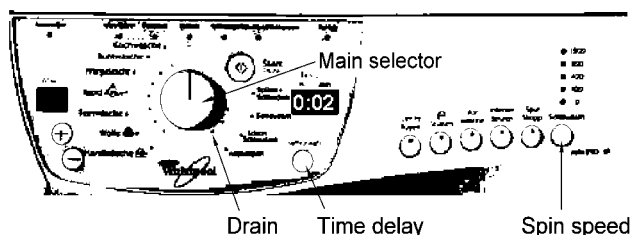
Text/Legend

Whirlpool SC1 VBL Version A and B test flow

1. **Attention : Use test program without laundry !!**

2. **Selecting the program :**

Select the Drain program by turning the main selector. Wait until the display shows 0:02 and till the pump has stopped

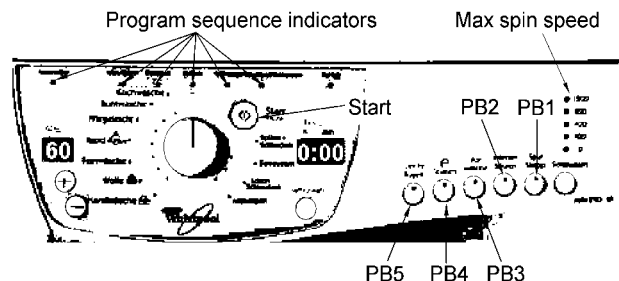


3. **Start of test program :**

Press PB1 twice, then PB2 twice and then the start button.

Indication of entering the test program:

- temperature display = 60°C
- delay start display = 0:00
- speed LED max = ON
- LED of PB1 and PB2 = ON



4. **Stopping the test program :**

Stop by moving the main selector into any other position.
- note - no stop of test program by main interruption.

Testprogram for Whirlpool SC 1 timer VBL version A or B (Central program selector).

Position of timer	Program sequence LED's						Detergent box	Inlet / Outlet	Max temp.	Duration (" = sec) (' = min)	Movement of drum	Advance condition	Advance by option button (Press slowly twice)	Checking
	Pre-wash	Main-wash	Rinse	Rinse hold	Spin-ning	Aqua-stop								
-	X	X	X	X	X		-				no movement		PB 3	PB 1, PB 2
6	X	X	X	X	X	X	pre wash	fill		60"	no movement		PB 3	PB 3
8							main wash	(hot) fill	hot fill	60"	no movement		PB 4 **, PB 1	PB 4, mainwash fill, hot fill N1
16		X	X	X	X			fill		6'	gentle wash	N 1		
18								fill			gentle wash	60"	PB 1	
20								(fill)	90°C	55'	gentle wash	till 90°C - time unknown	PB 1	heating, NTC leakage
23			X	X	X		bleach *				turns right	3"		
27							softener	fill			turns left	60"	PB 5 ** or PB 1	PB 5, bleach fill
28				X	X		-	pump		6'	gentle wash	N 1	PB 1	pump, N1
29					X		-	pump			0 - 95 rpm	4", N 1		pump
5							-	pump			select. Speed	300", N 1	PB 1	motor - spinning
							-				no movement	∞		

** if PB 4 / PB 5 / PB 6 are present they must be used to advance to next step - if not present - use PB1 instead.

* 4 chamber detergent dispenser "bleach compartment"

3 chamber detergent dispenser "main wash" compartment

Reaction to failure:

Timer SC1 goes into safety routine

- drain to level 1+30 sec. (time out for draining = 6 minutes)
- stop motor (relais in safety position)
- stop valve
- go out of heating step, if time out is reached

Text/Legend

Table of failures:

Failure Identifier	Indication	Detected failure	To be checked
1	FH	No water inlet	Water Tap / Valve / Flowmeter / Pressostat
2	FA	Aquastop failure	Aquastop switch
3	FP	Drain failure	Drain pump / Pressostat
4		Not active	
5	F05	NTC failure (SC / OC)	NTC
6	F06	Tachometer failure (no motor movement detected)	Motor / Tachometer
7	F07	Triac short circuit detection	Control unit, Motor
8		Not active	
9	F09	Overflow failure	Pressostat
10		Not active	
11	F11	Communication failure	Control unit, I2C bus
12		Not active	
13		Not active	
14	F14	EEPROM failure	Control unit
15		Not active	
16	F16	Control failure	Control unit
17		Not active	
18	F18	Control failure	Control unit
19		Not active	
20	F20	Control failure	Control unit
21	F21	Control failure	Control unit

Display of failures on the speed LED's (flashing):

Errors	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	F:H	F:A	F:P	F:4	F:5	F:6	F:7	F:8	F:9	F:10	F:11	F:12	F:13	F:14	F:15
Speed Leds	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	○	○	○	○	○	○	○	○	●	○	●	○	○	●	○
	○	○	○	○	●	●	●	○	○	○	○	○	○	○	○
	○	●	●	○	○	●	●	○	○	○	○	○	○	○	○
	●	○	●	○	●	○	○	○	○	○	○	○	○	○	○

Errors	16	17	18	19	20	21
	F:16	F:17	F:18	F:19	F:20	F:21
Speed Leds	●	○	●	○	●	●
	○	○	○	○	○	○
	○	○	○	○	●	●
	○	○	●	○	○	○
	○	○	○	○	○	●

Text/Legend

