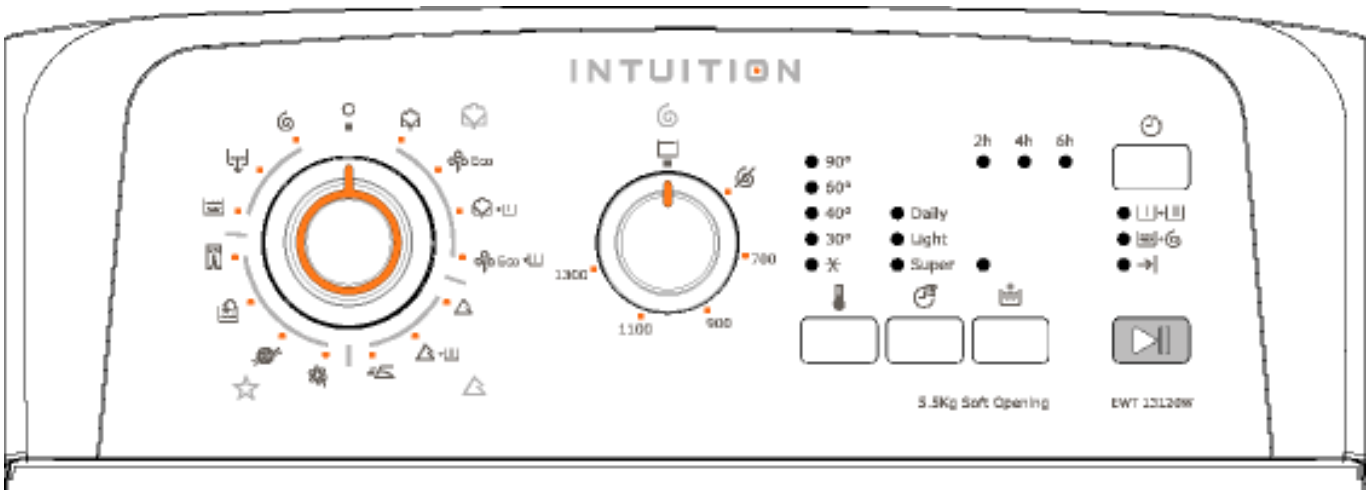
Electrolux
Distriparts

SERVICE MANUAL

WASHING



Washing machines, Toploader

Appliance
EWM 1100

ENV 06
TC6, TC5

ELECTROLUX

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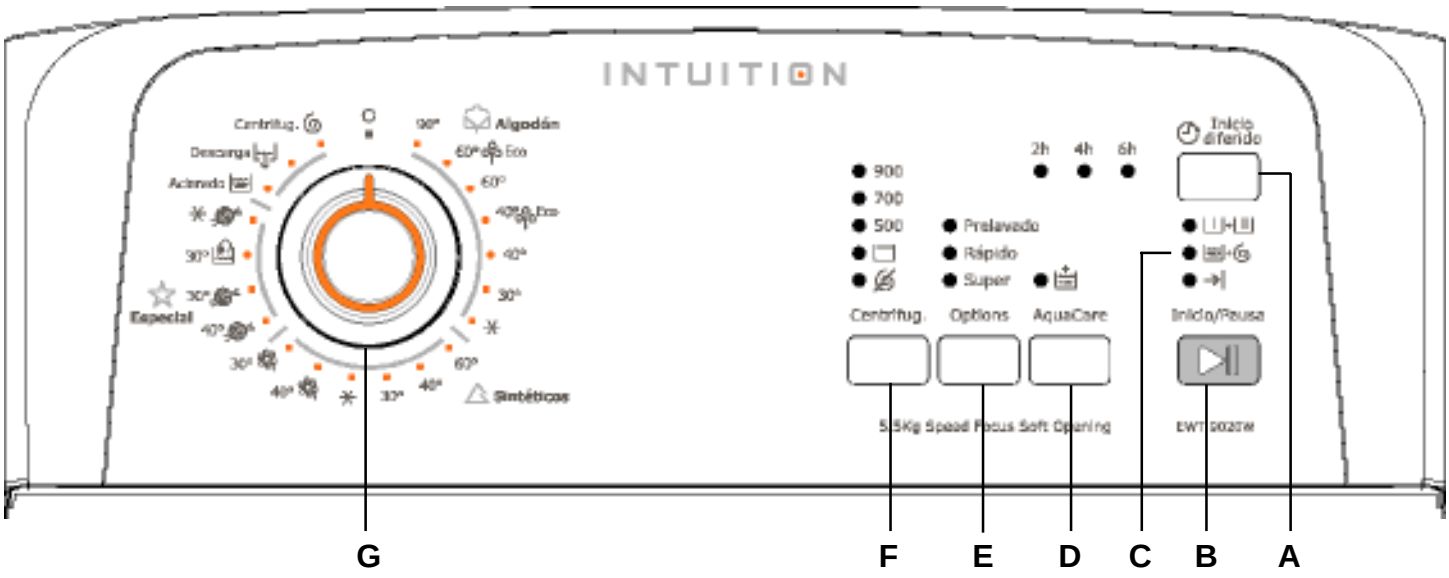
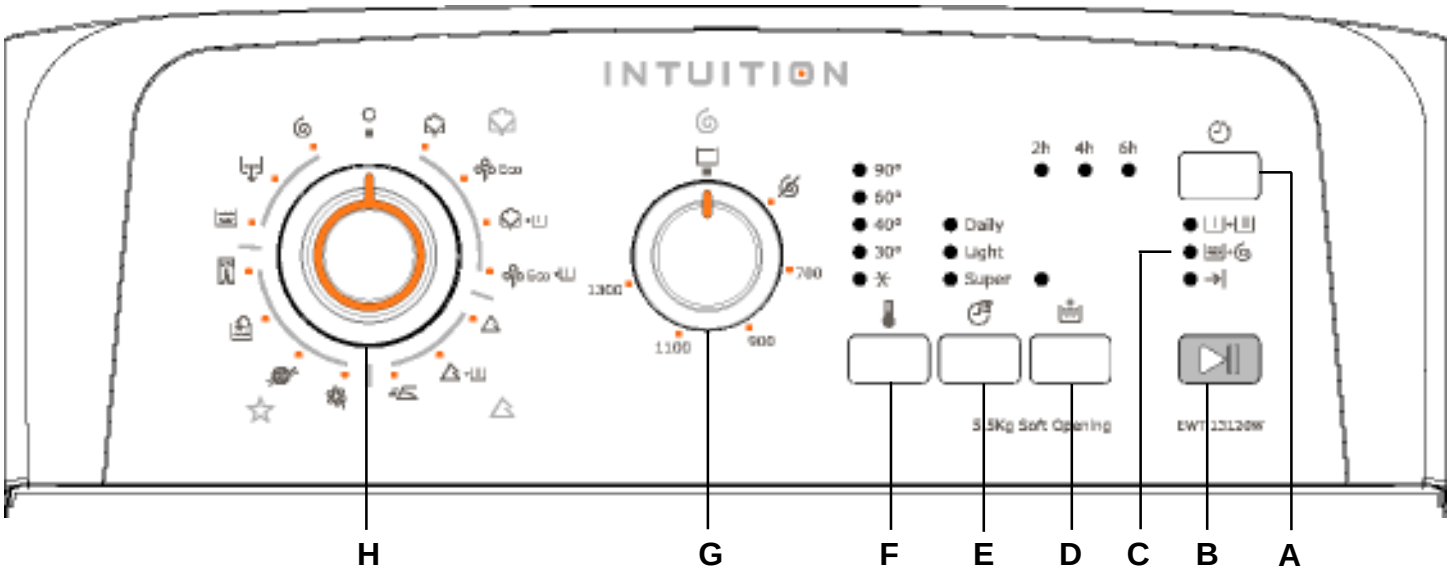
Control Panel

Version TC6 (Electrolux-design)



A Delayed start
B Start, Pause
C Cycles
D Extra rinses
E Options
F Spin
G Programselector

Version TC5 (Electrolux-design)



A Delayed start
B Start, Pause
C Cycles
D Extra rinses
E Options
F Temperature
G Spin speed selector
H Programselector

Cycles

LED-prewash and mainwash

LED-rinces and spin

LED-end

Standby

Function:

- After 10 minutes of standby in the pre-selection position or at the end of the cycle, the light of the Display switches off and the LED Start/Pause flashes slowly.
  Pressing any button or rotating the selector, the appliance returns to the normal status (following model MCF-file).

Selector

Function:

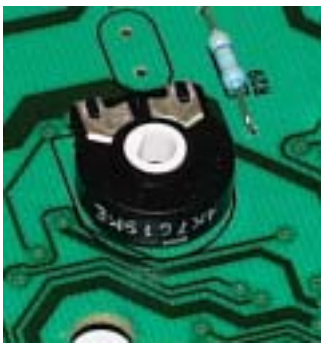
- There is an additional 6-position selector only with the TC5 model.

- **Spin speed selector**, by turning this selector, you can reduce spin-dry speed step by step down to zero, to rinse hold or to night cycle.
- Reduces the spinning speed of all spin-dry cycles.

1300	1100	900	700	0	Rinse hold
1200	900	700	500	0	Rinse hold
1100	900	700	500	0	Rinse hold
1000	900	700	500	0	Rinse hold
900	800	700	500	0	Rinse hold
800	700	600	500	0	Rinse hold
700	600	500	400	0	Rinse hold

- **Temperature selector**, by turning this selector, you can reduce temperature speed step by step down to colt.

adjust temperature	90°C	60°C	50°C	40°C	30°C	0°C



Push Buttons

Spin deselection button 

Function:
- By pressing this key, you can reduce spin-dry speed step by step down to zero, to rinse hold or to night cycle.
- Reduces the spinning speed of all spin-dry cycles.

1000	700	500	0	Rinse hold
900	700	500	0	Rinse hold
800	700	500	0	Rinse hold
700	500	400	0	Rinse hold

Temperature button 

Function:
- To activate the temperature button it is necessary to select a program.
- By pushing this button the washing temperature can be reduced to 0°C step-by-step.

adjust temperature	90°C	60°C	40°C	30°C	0°C

Time Manager-button

Function:
- By pushing the Time Manager key you can reduce the wash time depending on the degree of soilind.

- **LED Daily**, wash times in Cotton, Synthetics and Delicates cycles are reduced.

- **LED Light**, wash time in Cotton, Synthetics and Delicates cycles are reduced even further.

- **LED Short**, wash time in Cotton, Synthetics and Delicates cycles are modified for half the quantity.

Extra rinse button 

Function:
- Two additional rinse cycles are added in the cycle cotton / coloured.
- One additional rinse cycle are added in the cycles synthetics, delicate fabrics and silk.
- No intermediate rinse, except after the last rinse cycle.

Delayed Start button 

Function:
- By pushing the key for pre-selecting the time you can delay the start time.
- Depending on the model, you can select three different delay levels, e.g. 2h, 4h, 6h.
- Via the configuration of electronics it is possible to get various delay levels from 2h – 20h.
- Change of delayed start: - switch off the programselector
  - select a new program again

Start/ Pause button

Function:

- The selected program is activated by pressing the start/pause button.
  The LED start/pause on.
- If the cycle is to be paused, press the start/pause button.
  Start/ Pause-LED blinks. The program interrupt.
- This is not possible after a program run time of 10 min..

LED	status	process
start/pause	(green) ON	cycle is running (lid closed)
	(green) Flashing	cycle in pause position
	(red) Flashing	additional option key pressed, after program start. Err in display.
	OFF	

Options

The selection of the options is to be carried out after switching on the appliance and setting the desired programme with the selector and before pressing the start/pause button.

Programmes			Options																	
			Rinse-hold	Night cycle	Pre-wash	Stains	Bleach	Extra rinse	Easy iron	Eco	Intensiv	Normal	Daily	Light	Quick	Super quick	Reduced spin speed	no spin	Half-load
Compatibility with programmes	Cotton	90°C	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
		60°C	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
		50°C	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
		40°C	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
		30°C	X	X	X		X	X	X			X	X	X	X	X	X	X	X
		cold	X	X	X		X	X	X			X	X	X	X	X	X	X	X
	Synthetic	60°C	X	X	X	X		X	X	X		X	X	X		X	X	X	
		50°C	X	X	X	X		X	X	X		X	X	X		X	X	X	
		40°C	X	X	X	X		X	X	X		X	X	X		X	X	X	
		30°C	X	X	X			X	X			X	X	X		X	X	X	
		cold	X	X	X			X	X			X	X	X		X	X	X	
	Delicates	40°C	X	X	X	X		X				X	X	X		X	X	X	
		30°C	X	X	X			X				X	X	X		X	X	X	
		cold	X	X	X			X				X	X	X		X	X	X	
	Wool	40°C	X	X								X					X		
		30°C	X	X								X					X		
		cold	X	X								X					X		
	Easy iron	60°C	X		X			X	X			X					X	X	
		50°C	X		X			X	X			X					X	X	
		40°C	X		X			X	X			X					X	X	
		30°C	X		X			X	X			X					X	X	
		cold	X		X			X	X			X					X	X	
	Blanket	40°C										X					X		
		30°C										X					X		
	Jeans	60°C	X	X	X			X	X			X					X	X	
		50°C	X	X	X			X	X			X					X	X	
		40°C	X	X	X			X	X			X					X	X	
		30°C	X	X	X			X	X			X					X	X	
		cold	X	X	X			X	X			X					X	X	
	Shoes	40°C	X	X	X			X				X					X		
		30°C	X	X	X			X				X					X		
		cold	X	X	X			X				X					X		
	Lingerie	40°C	X	X								X					X	X	
		30°C	X	X								X					X	X	
		cold	X	X								X					X	X	
	Silk	30°C	X	X												X	X	X	
		cold	X	X												X	X	X	
	Baby, Sport intensiv	40°C	X	X	X			X				X					X	X	
		30°C	X	X	X			X				X					X	X	
		cold	X	X	X			X				X					X	X	
	Sport light, Mi	30°C														X	X	X	
	Sanitär	90°C	X	X	X	X	X	X			X						X	X	
	5 Shorts	30°C														X	X		
	MIX 40°-60°	40°C	X	X	X	X	X	X		X							X	X	X
	Hygiene +	90°C	X	X		X		X	X			X					X	X	X
		60°C	X	X		X		X	X			X					X	X	X
		50°C	X	X		X		X	X			X					X	X	X
		40°C	X	X		X		X	X			X					X	X	X
	Rinses		X	X			X	X	X								X	X	
	softener		X	X				X									X	X	
	Conditioner		X	X					X								X	X	
	Drain																		
	Spin																X		
	Gentle spin																X		

Function:

Rince hold

- The program is finish with water in the drum.
- In order to continue a program afterwards, you first have to select a separate draining or spinning.

Function:

Night Cycle

- The number of rinces are increase cotton/cotoured from three rinces to six rinces and synthetic from three rinces to four rinces.
- All rinces are without a spinphase.
- The programm is stopped in a rinse hold.
- In order to continue a program afterwards, you first have to select a separate draining or spinning.
- Switches off the buzzer (if configured)

Function:

Pre-Wash

- It is heated up to max. 30 ° C.
- Can't be combined with the programe wool, silk and sport 30.

Function:

Stains

- The selected temperature however must be >=40°C.
- Separate rinsing in of stain remover through the pre-wash chamber, approx. 1.2 ltrs.
- Can't be combined with the pre-wash function.
- Extends the cycle duration in the main wash by 5 minutes after the first heating to 40°C.

Function:

Extra rinse

- Two additional rinse cycles are added in the cycle cotton / coloured.
- One additional rinse cycle are added in the cycles synthetics, delicate fabrics and silk.
- No intermediate rinse, except after the last rinse cycle.

Function:

Easy Iron 40°

With **cotton/coloureds** programmes:

- No intermediate spin-dry cycle.
- 3 additional rinse cycles.
- Pulse spin-dry
- Additional loosening phase after spin-drying

With **synthetics** programmes:

- Reduced wash temperature
- Prolonged wash time and prolonged cooling phase
- One additional rinse cycle
- Additional loosening phase after spin-drying

Function:

Energy Saving

- The washing temperature in the programs:
- E90°C is reduced to 67°C, the max. temperature kept constantly for a certain period of time.
  E60°C is reduced to 40°C, the max. temperature kept constantly for a certain period of time.
  E40°C is reduced to 40°C, the max. temperature achieved for a short moment.
- Can't be combined with the quick function.

Programselector

Depending on the model, the electronic may include a programselector with 15 or 21-positions.
The programselector includes the “on/off” function and the wash programs.

Programme

Jeans 

Function:
- The cycle includes a main cycle, five rinse cycles. (1. and 2. rinses without intermediate spins and 3., 4., 5. rinses with intermediate spins max.1200 1/min).
- The load amount is 3kg.
- Can be combined with the Night Cycle Pre-wash and Spin deselection button.

Shoes 30°, 40° 

Function:
- The program consists of a main wash, three rinses without intermediate spins but with an end spin. (1000 1/min).
- It is heated up to 40 °C.
- Can be comdined with the Quick, Extra rinse, Night Cycle, Pre-wash, Soaking and Spin deselection button.

Silk 30° 

Function:
- The program consists of a main wash, three rinses without intermediate spins but with an end spin. (700 1/min).
- Washing time during main wash is 10 min.
- The load amount is 1kg.

Baby 30°, 40° 

Function:
- The program consists of a main wash, three rinses with higher water levels without intermediate spins, but with an end spin. (700 1/min).
- The load amount is 2kg.

Sanitär 90° 

Function:
- The program consists of a main wash, three rinses with intermediate spins but with an end spin. (1200 1/min).
- Washing temperature during main wash is kept constantly to 85° for 10 min.
- The load amount is 5,5kg.

Dessous 30°, 40° 

Function:
- The program consists of a main wash, three rinses without intermediate spins but with an end spin. (900 1/min).
- The load amount is 1Kg.

Blanket 30°, 40° 

Function:
- The program consists of a main wash, three rinses with higher water levels (20ltr.) intermediate and end spin. (650 1/min).
- The load amount is 2,5kg.

Soak 

Function:
- The soaking period begins with pre-wash and soaks for about the next 30 minutes.
- Can't be combined with the function pre-wash.
- It is heated up to 30 °C.
- A short spin cycle is performed in the cycles COTTON and SYNTHETICS, before passing on to the main wash.
- You can prolong soaking time for max. 0h, 30', 60', 90', 2h - 10 h using the „Start preset“ key.
- After pressing the start key, the duration of the cycle is displayed by hours and minutes.

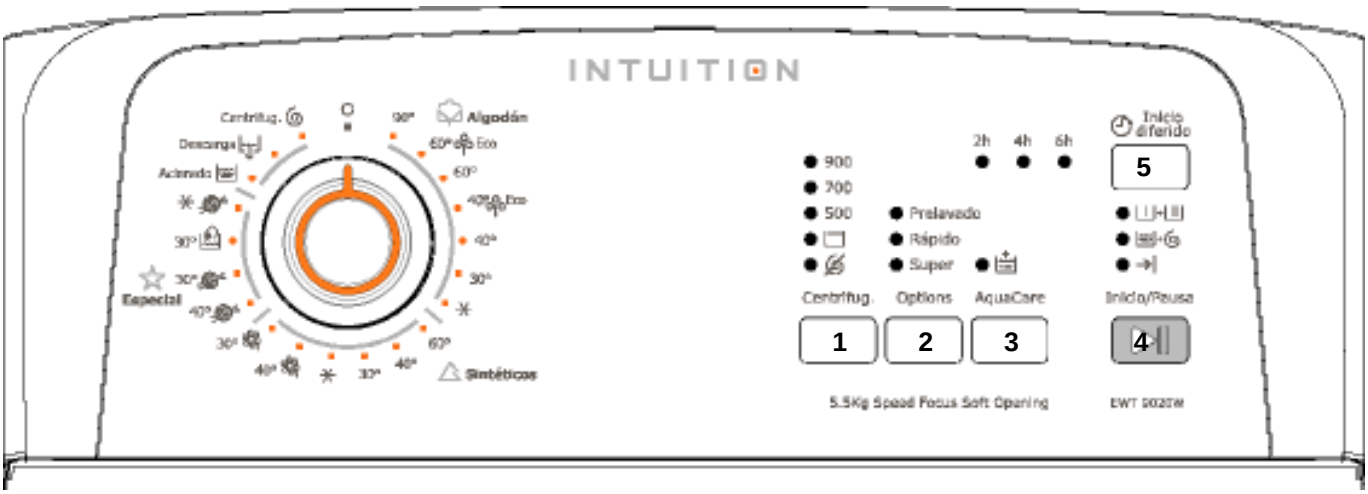
Sport light 30° 

Function:
- The program consists of a main wash, two rinses with higher water levels without intermediate spins, but with an end spin. (700 1/min).
- The load amount is 2kg.

Sport intensiv 30°, 40° 

Function:
- The cycle consists of prewash, higher water level, heating to 30° and spin cycle to 650 1/min, one main wash, two rinse cycles without intermediate spin with higher water level but with final spin (900 1/min).
- The load amount is 2,5kg.

Buzzer, Extra rinse cycle, Child safety



Activation and deactivation of the buzzer:

Function:
- Depending on the model, the electronic may include a buzzer.
- Switch off the appliance.
- Hold buttons 4 and 1 pressed simultaneously and turn the program selector one position to the right. The buzzer is activated.
- You can deactivate the buzzer by repeatedly pressing the key combination.

Activation and deactivation of the extra rinse cycle:

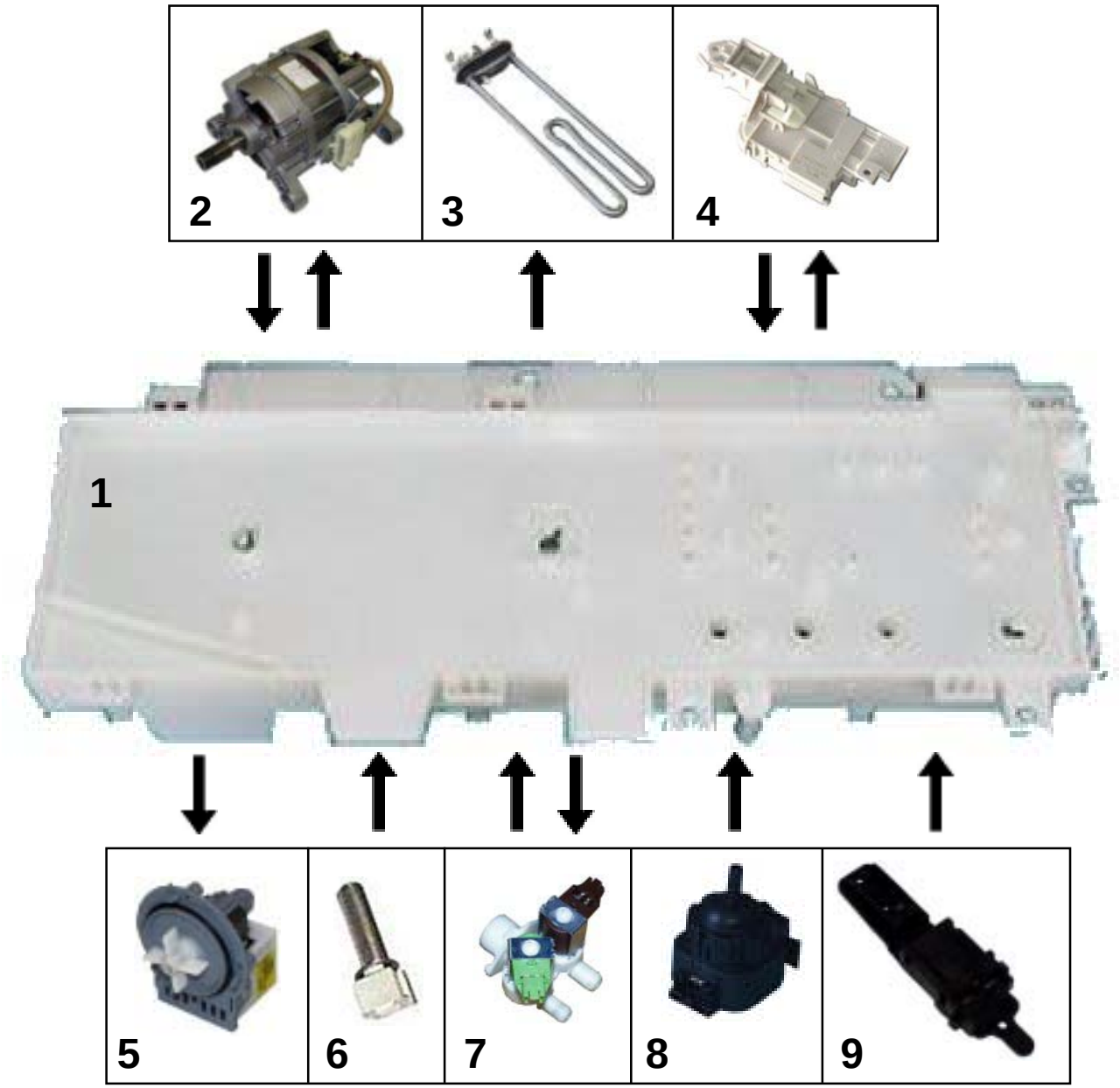
Function:
- If no extra rinse key is available, you can select extra wash.
- This button is effective in the cycles cotton/coloured wash, synthetics and delicate fabrics.
- Two additional rinse cycles are added.
- No intermediate rinse, except after the last rinse cycle.
- Switch off the appliance.
- Hold buttons 2 and 1 pressed simultaneously and turn the program selector one position to the right. The extra rinse is activated.
- You can deactivate extra wash by repeatedly pressing the key combination.

Activation and deactivation of the child safety:

Function:
- The child safety function can be activated at the start of the program and also after the program has started.
- Keep key 3 and key 2 pressed simultaneously until the LED is lit.
- The option is activated, the initiated wash program runs normally through and on completion any further function of the appliance is disabled. The option remains saved when the appliance is turned off.
- You can deactivate child safety by repeatedly pressing the key combination.

Functions of the System

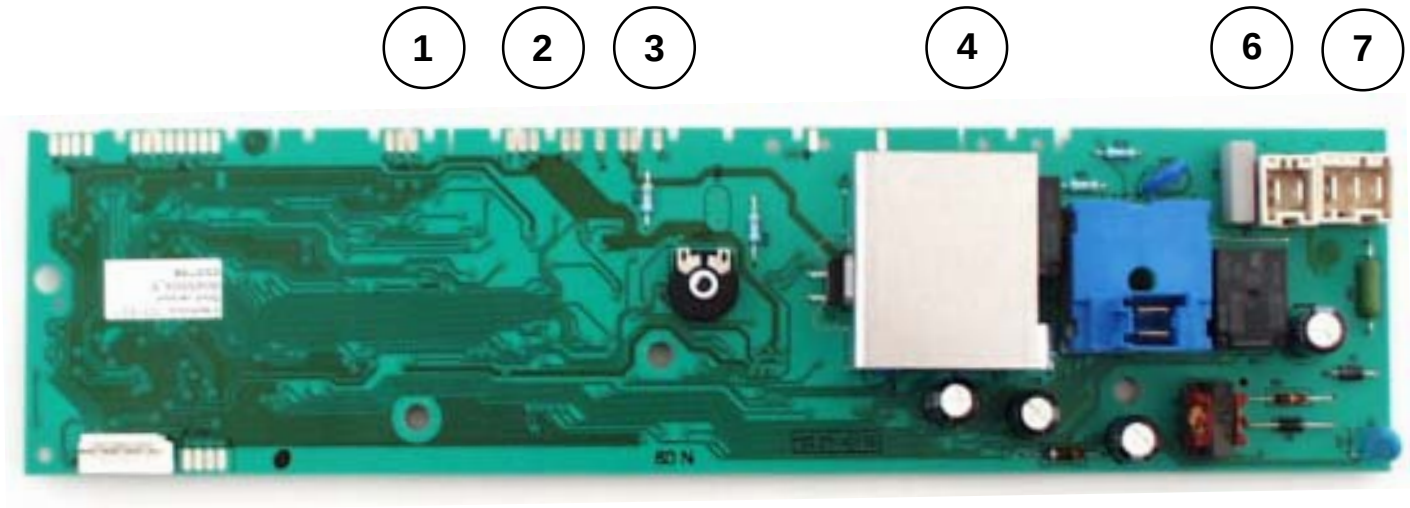
Electronic EWM1100 with universal motor AC



1. electronic module
2. motor
3. heating element
4. door security
5. drain pump
6. NTC-sensor
7. inlet valve
8. analog pressure switch
9. drum self position (DSP)

Connection cable electronic

Electronic EWM1100



1. drum self position (DSP)
2. analogic pressue switch
3. NTC-sensor, Inlet valve
4. motor, drain pump
5. Power supply 230V
6. heating element
7. door security

Electronic Module

The electronic module, including the µP, controls various functions and is placed in a protective housing.

It is the communication interface between the user and the appliance.

It consists of:

- The option buttons.
- The programselector with 15 or 21-positions.
- A selector for temperature or spin speed (only with TC5 appliances).
- The “Start/Pause” button.

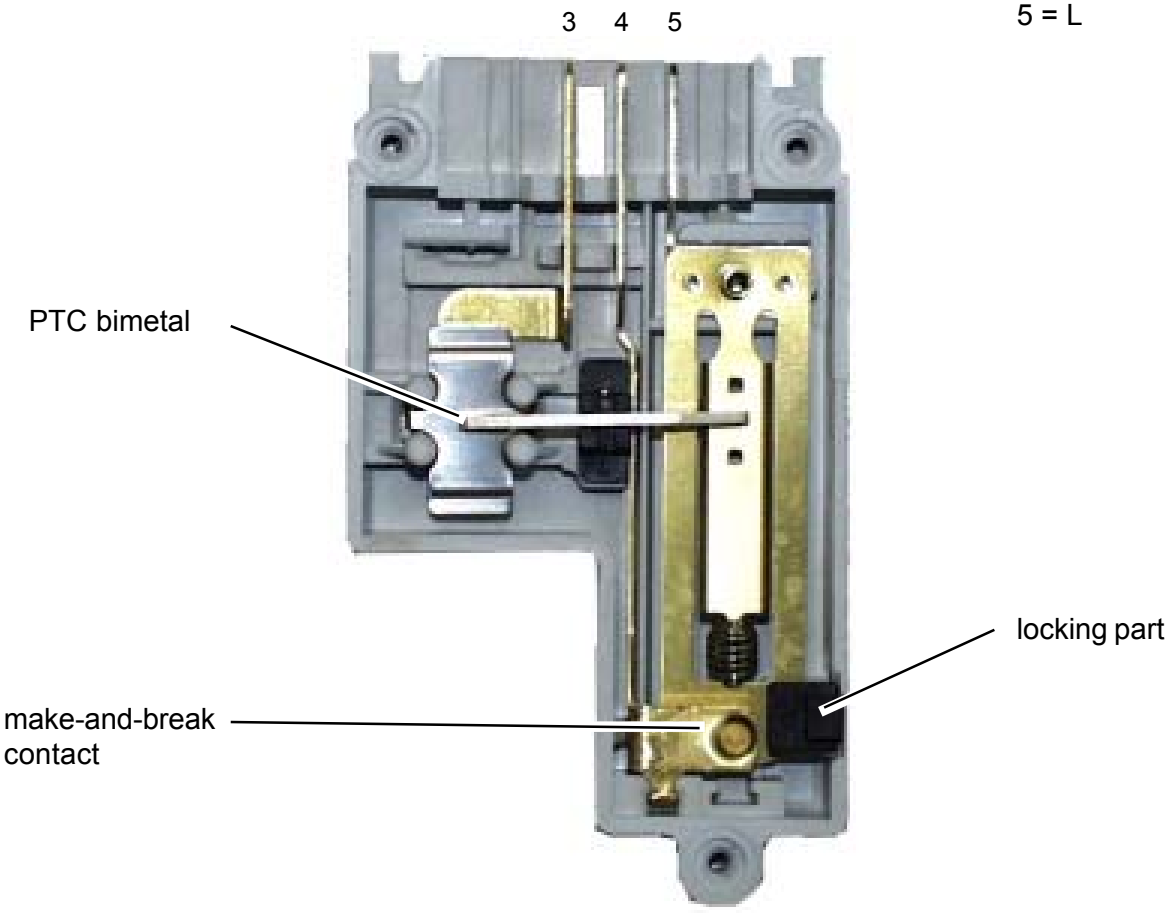
Functions:
- Taking data of the selected cycle programs through the module.
- Water level control (antifoam, overflow level) in the tub; the level is recognized by the analog pressure switch.
- Cycle temperature control by a NTC sensor.
- Power supply of the heating element.
- Power supply of the drive motor (EWM1100) and control of its speed by the tachymetric generator.
- Control of water inlet valves.
- Control of drain pump, door lock and DSP (drum self position).

In case of a power failure the module saves the just paused cycle.

- When the power supply to the appliance is restored again, the cycle starts where the program was paused.

Door Lock

3 = N
4 = electronic J1-2
5 = L

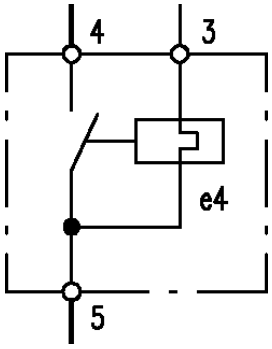


When closing
When the washing programme is started by pressing the START/ PAUSE button, the bi-metal PTC (contacts 3-5) is powered by the triac on the PCB: after 2-4 seconds, this closes the switch (5-4) which powers the electrical components of the appliance (only if the door is closed).

When opening
At the end of the washing programme, the PCB disconnects the interlock from the power supply, but the door remains locked for 1 to 2 minutes (PTC cooling time).

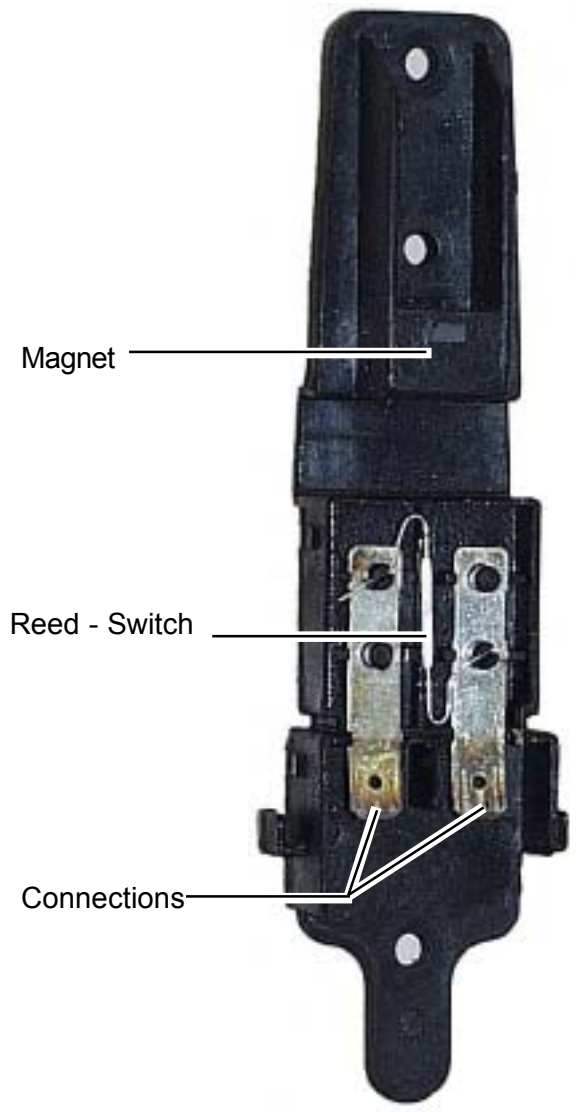
If there is a **power failure** during a wash cycle, the door lock requires approx. 2 min until the lid can be opened. During this time the PTC bimetal cools down and the locking part opens.

Circuit Diagram



Security:
(see page **Service - Program** fault display E40)

DSP (Drum-Self-Position)



Control (check) the DSP-Function:

1. Remove the two plugs from the DSP and check the resitance of the reed relay.
   - Turn the drum to the right position ---> $> 0\Omega$
   - Turn the drum over the right position ---> 0Ω

2. The drum is still in the right position.
   Now measure the voltage. 5-6V DC
   - If there is no voltage ---> Cable, Main electronic board is defective

3. Check the In / Output electronic in the customers service test program.
   - LED on ---> In / Output electronic OK.
   - LED off ---> In / Output electronic defective.

Function:
The reed relay is closed if the metalic sheet, located on the pully, isn't between the magnet and the reed relay. If the position of the metalic sheet is between those parts the contact of the reed relay is opened.

To mount the pulley in the correct way, you have to take care about following items:
The metal sheet located on the pulley should be in the drum self positioning device, if the door of the drum is in the upper postion. The DSP is supplied with 5-6 V DC by the main board.

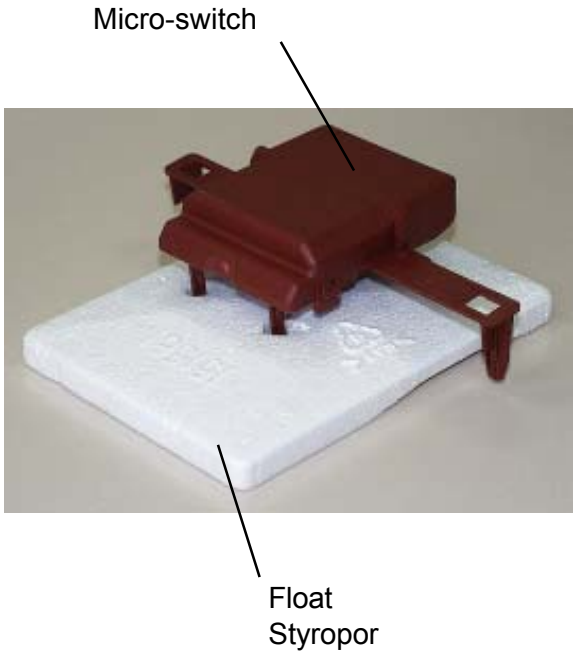
Condition drum positioned:
Reed contact opened, 5-6V DC.
Condition drum out of postion:
Reed contact closed, 0V DC.

If the washing cycle is interrupted by the start pause button the drum has to be postioned within 10 sec. During this time 2-3 attempts can be excecuted.If the drum isn't positioned during this time, the lid of the appliance is released and can be opened. The LED drum positioned is not illuminated.
At the end of the cycle the positioning phase is 2 min until time out is reached.

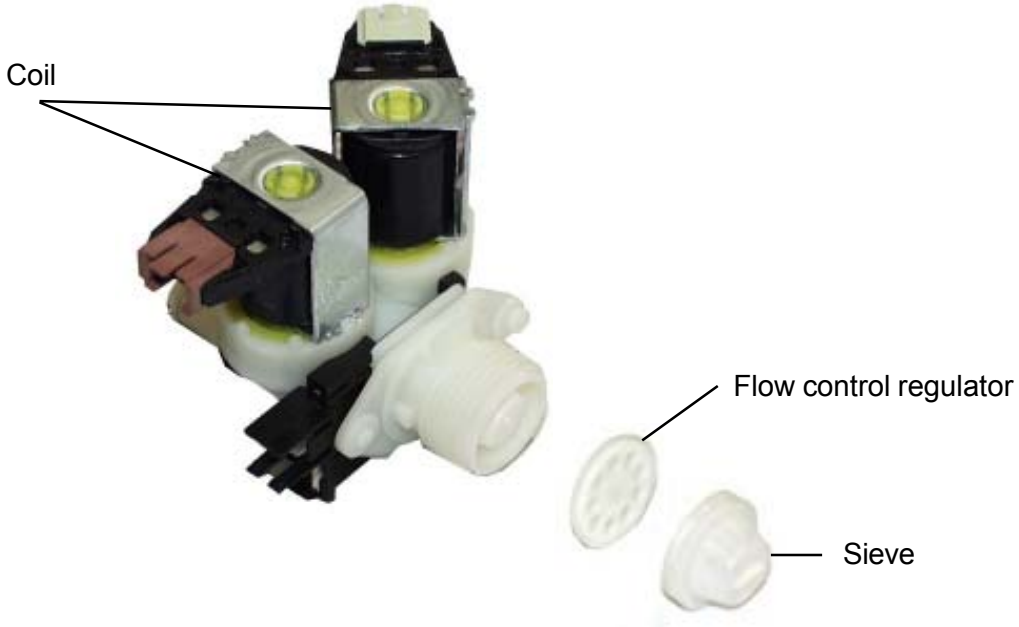
Float switch

The float switch is made of a housing with a micro switch and a float body.

Function:
The float switch is located in the bottom tray. The bottom tray is constructed in a way that the water is gathering in the area of the float switch in case of leaky components (tub, hoses, etc.). The float body comes up and switches a micro switch.
This selects the drain pump, the existing water in the tub is drained. The inlet valve is switched off.

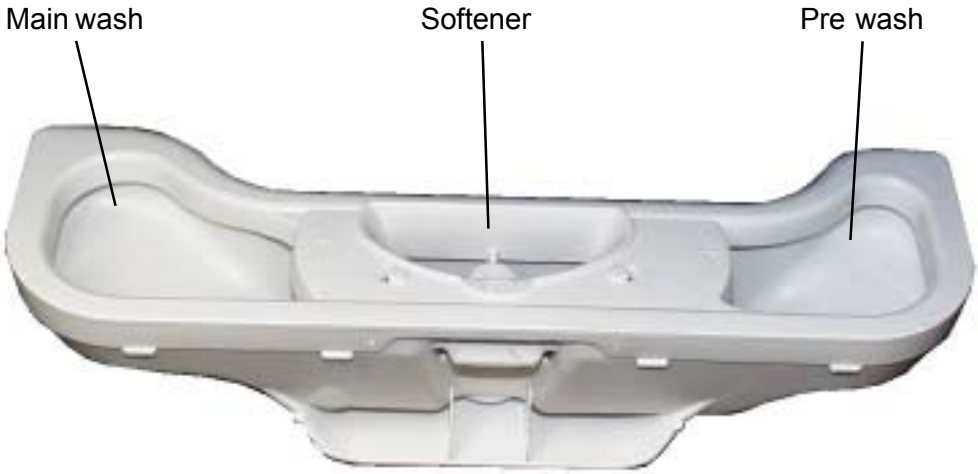


Inlet valve



The automatic washing machine is equipped with a double inlet valve. A valve controls the water inlet for the prewash chamber, the second valve controls the water inlet for the main wash chamber.
The filling via the softener chamber is achieved by selecting both valves.
The water pressure of > 1 bar is limited by the volume regulator to 5.5 l/min ±15%.
(see Page **Service - Program** fault display EC1)

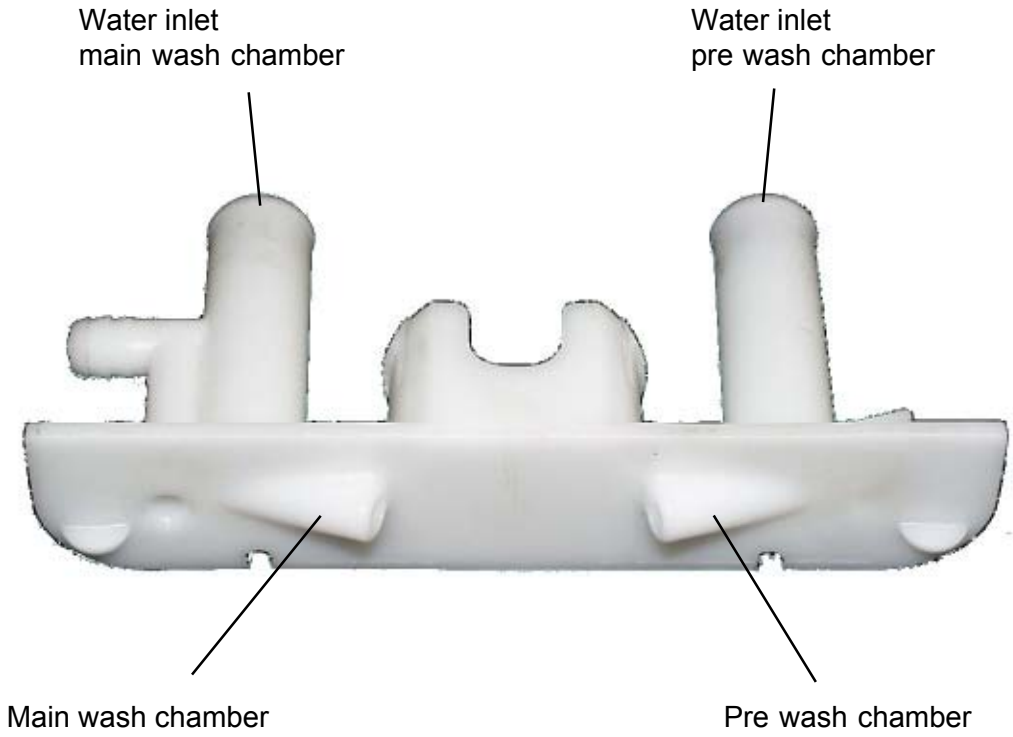
Water Inlet Valve for 3-chamber detergent box



1	-	connection water inlet hose
2	-	inlet valve, 2-fold
3	-	hose for pre-wash
4	-	hose for main wash
5	-	water distributor
6	-	hose for fluff filtre

***) Attention!**
The simultaneous filling through hoses 3 and 4 provides the fill-in through the softener chamber.

Water Distributor

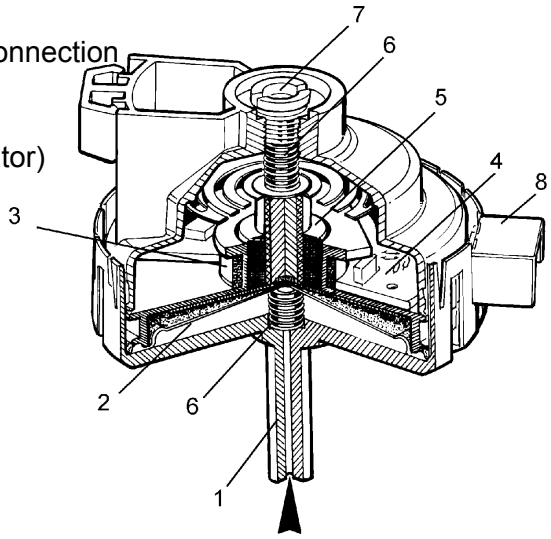


Analogic pressure switch

The analogic pressure switch controls the water level in the tub, it is directly connected to the electronic modul.

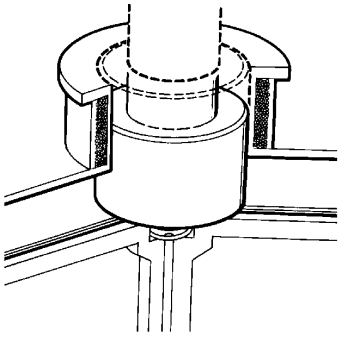
If the pressure switch does not work correctly, the programm in progress is cancelled:

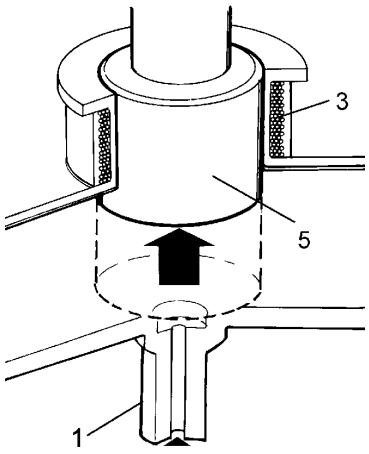
1. Pressure switch hose connection
2. Diaphragm
3. Coil (self)
4. Electronic circuit (oscillator)
5. Magnet
6. Spring
7. Adjusting screw
8. Connector
   Kontakt 1 = Out
   Kontakt 2 = GND
   Kontakt 3 = 5V DC



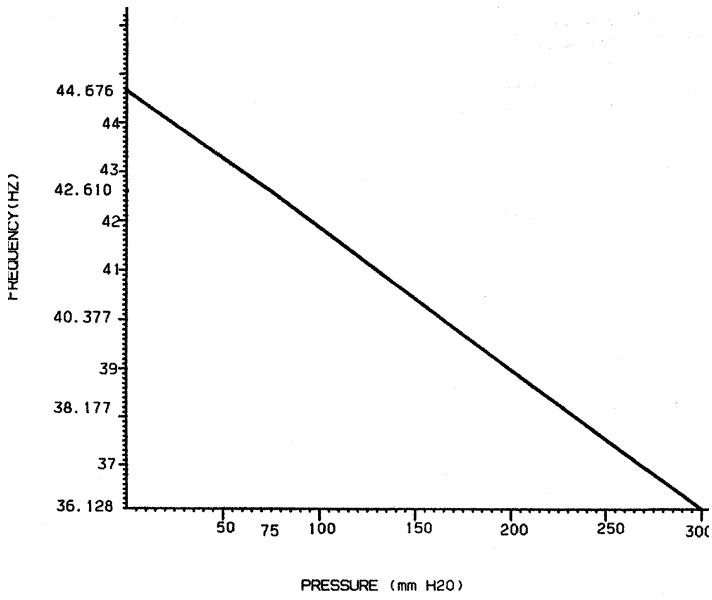
When the tub is full, the pressure inside the hydraulic circuit acts on the diaphragm which moves the magnet inside
the coil.

This moving modifies the inductance of self and consequently the frequence delivered by the scillatory circuit. the µP, after frequence reading, recognizes the water level inside the tub. (see Page **Service - Program** fault display E30)



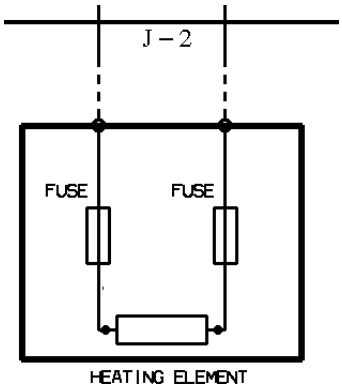


Frequence delivered follow the pressure (± 50 Hz)

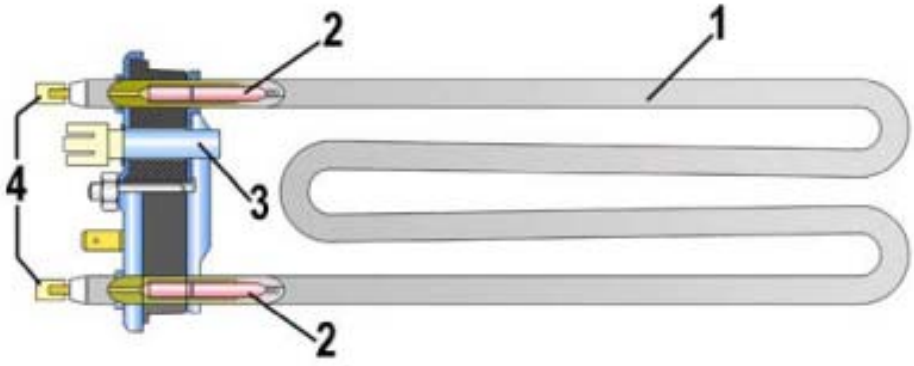


Heating element

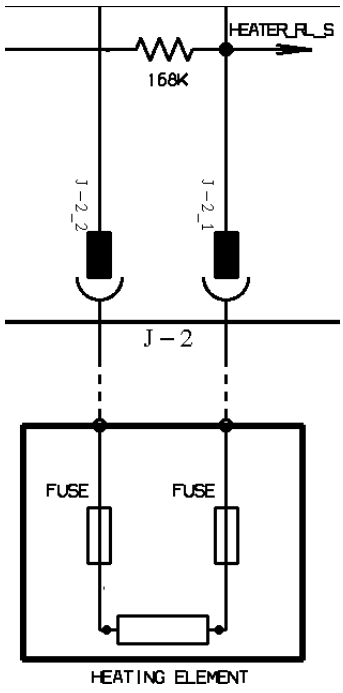
Connection:	230V; 50Hz;
Power:	1950W
Fuse:	10A



The heating element is supplied with power directly from the control electronics by means of a relay. For security reasons, 2 switching contacts of the pressure switch are connected in series. The switching positions are monitored by control electronics via 2 control lines.



1. Heating element
2. Temperature fuse
3. NTC-sensor
4. Connection



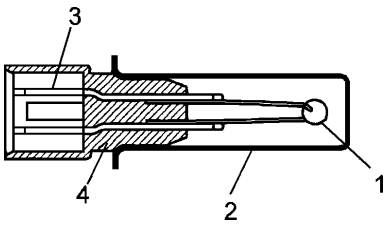
Check of insulation resistance with the heating

Wash a cycle for approx. 10 minutes. Switch off the appliance, unplug the plug and remove the side panel.
Draw off the connecting lines from the heater.
Measure the resistance between heating (depending on connection) and mass.
Resistance > 200 kOhm —> heater OK.
Resistance < 168 kOhm —> error E68

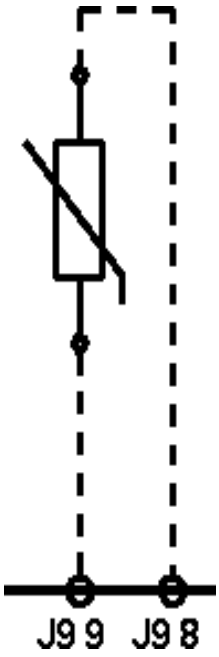
Heating Circuit

The cycle temperature is fixed by the µP depending on the selected program.
The temperature control is guaranteed by the µP through the NTC temperature sensor. The temperature sensor reduces its resistance according to the temperature increase.
The reduction in the ohmio value of the temperature sensor is detected by the µP; as soon as the selected temperature is reached the power supply to the heating element will be paused.
The NTC sensor is integrated in the heating element.

NTC-Sensor



1. NTC resistance
2. Metallic casing
3. Connections
4. Plastic casing



To check the NTC sensor function you can measure the ohmic resistance between the contacts J9/8 and J9/9.

Variations of NTC resistance

Temperature (°C)	Resistance (Ohm)	
25	4815	+- 207
40	2563	+- 102,5
60	1196	+- 26,31
80	602	+- 19,89

Security

- The µP will be break off if an anomaly on the termistance circuit is detected : cut or short-circuit. (see Page **Service-Program** fault display E70)
- The heating phase is not executed.

Drain pump

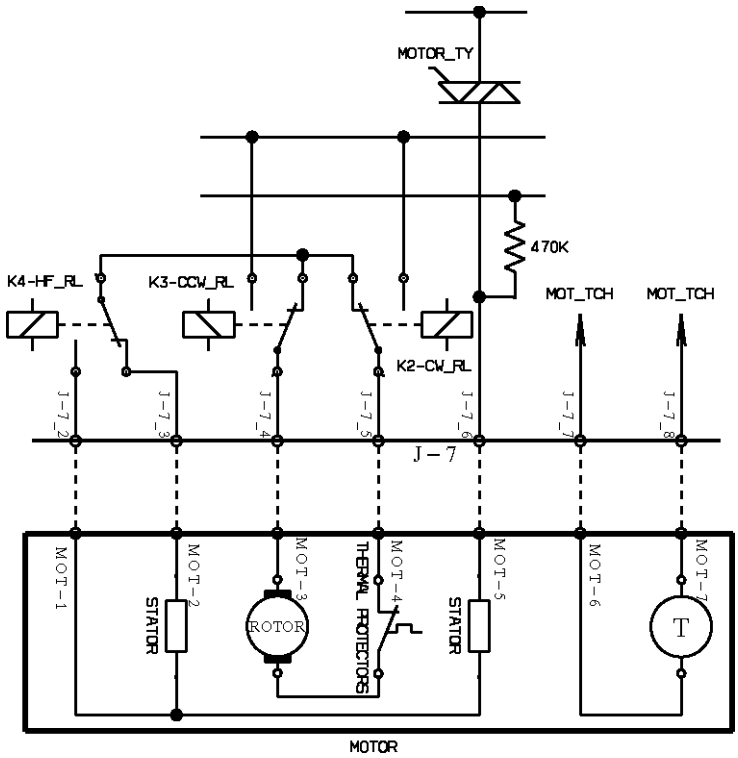
The drain pump is directly controlled via triac from the control electronics.

Motor

Electronic EWM1100

The motor is directly phase-controlled via triac from the control electronics.
Relays K2, K3 are responsible for commuting the sense of rotation.
Field switching (if any) is controlled by relay K4.
Speed is monitored by tachometer generator g1 and controlled by control electronics.
Integral overheat protection disconnects the motor from power supply at 115°C.

Connection:

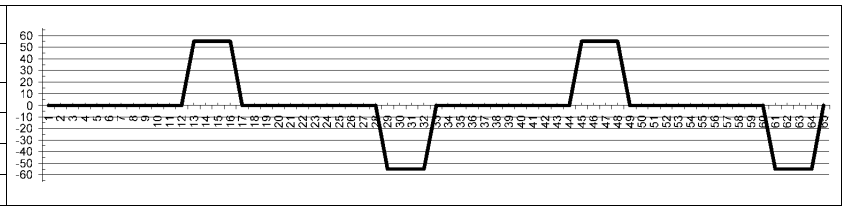


Safety

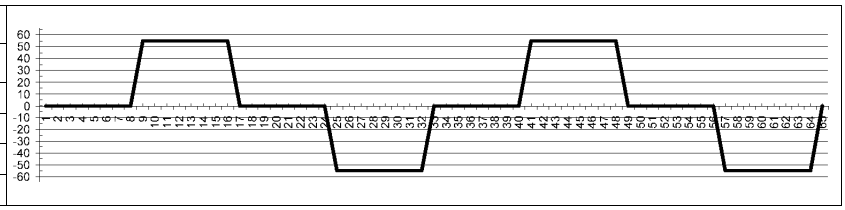
- If the triac for the motor is in short-circuit, or if the tachometer generator is interrupted, 4 trials are executed in intervals of 5 minute each.
  After a break of 20 minutes, the fifth and last trial is started. If the motor does not run this time, the programme is aborted.
  (see Page **Service-Program** fault display E60)

Drum movements

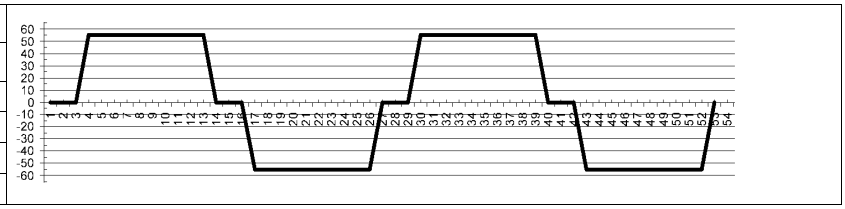
D55	
Sek.	**1/Min.**
12	0
4	55
12	0
4	-55



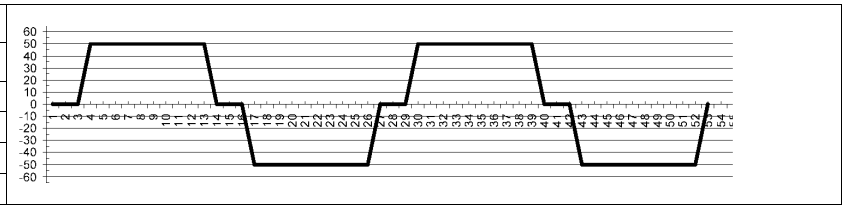
N 55	
Sek.	**1/Min.**
8	0
8	55
8	0
8	-55



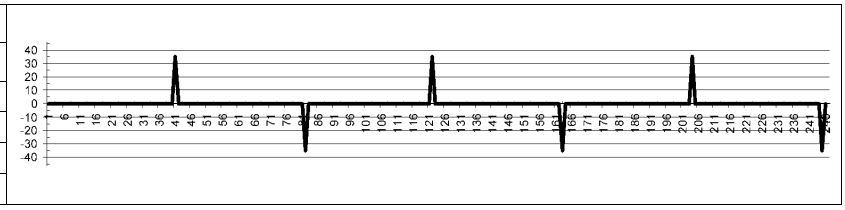
E 55	
Sek.	**1/Min.**
3	0
10	55
3	0
10	-55



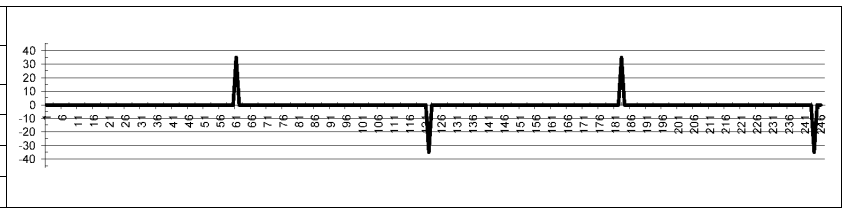
E 55	
Sek.	**1/Min.**
3	0
10	50
3	0
10	-50



PWL_1	
Sek.	**1/Min.**
40	0
1	35
40	0
1	-35

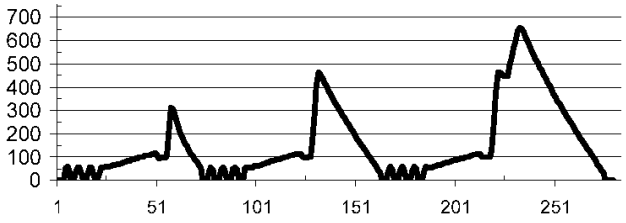


PWL_4	
Sek.	**1/Min.**
57	0
1	35
57	0
1	-35

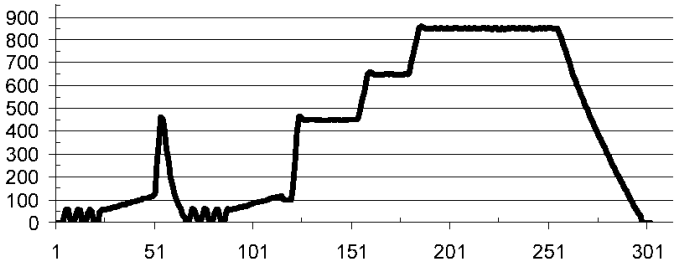


Spin profiles

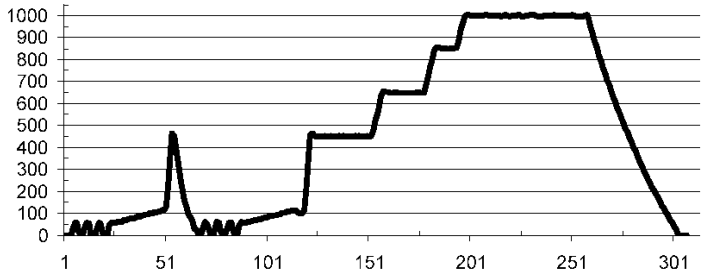
C0		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
300	0	nein
FUCS	x	nein
450	0	nein
FUCS	x	nein
450	5	nein
650	0	nein



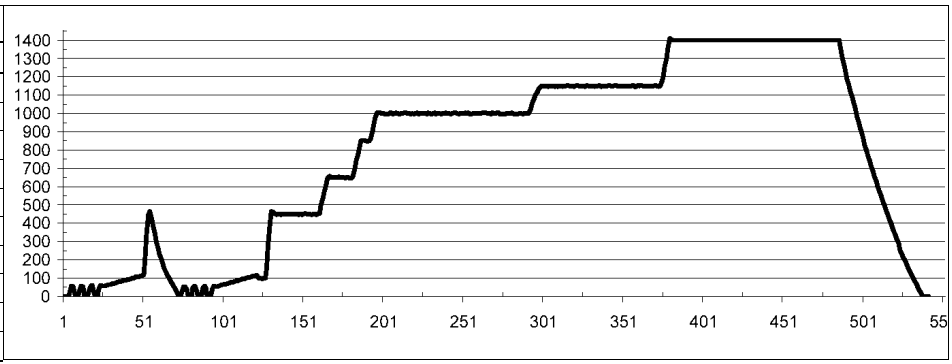
C1		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
FUCS imp	x	nein
FUCS	x	nein
450	30	AS
650	15	AS
850	10	AS
850	60	nein



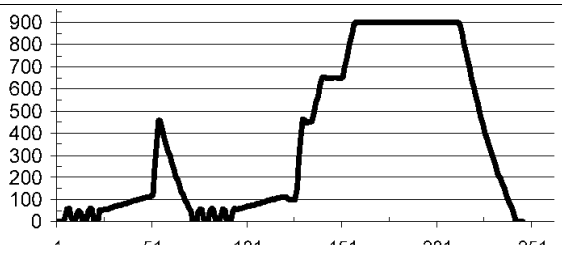
C2		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
FUCS imp	x	nein
FUCS	x	nein
450	30	AS
650	20	AS
850	10	AS
1000	60	nein



COT_CF		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
FUCS imp	x	nein
FUCS	x	nein
450	30	AS
650	15	AS
850	5	AS
1000	95	nein
1150	75	nein
1400	110	nein

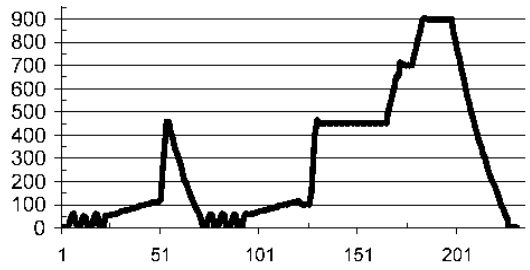


SYN_CF		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
FUCS imp	x	nein
FUCS	x	nein
450	5	nein
650	10	nein
900	55	nein

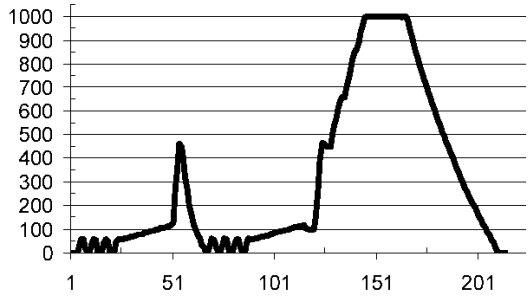


Spin profiles

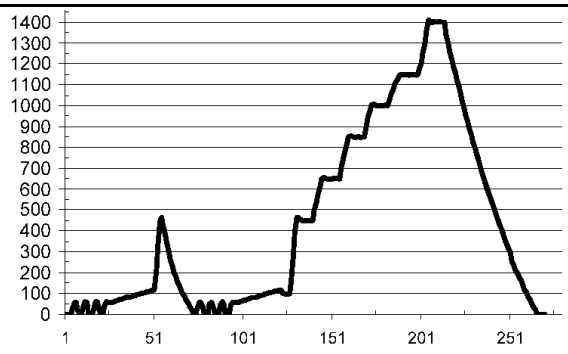
CF (Feinwäsche)		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
FUCS imp	x	nein
FUCS	x	nein
450	35	AS
700	5	AS
900	20	AS



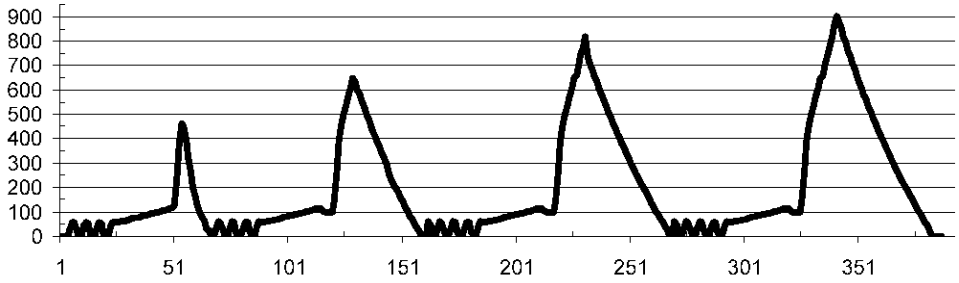
CF (Wolle)		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
FUCS imp	x	nein
FUCS	x	nein
450	5	AS
650	1	AS
850	1	AS
1000	20	nein



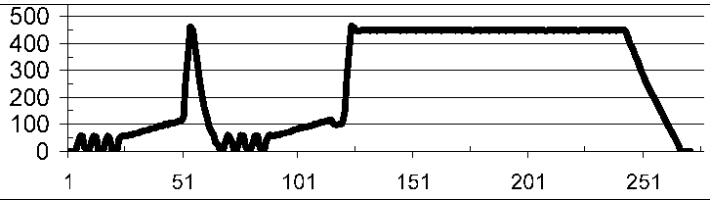
Separater Schleudergang		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
FUCS imp	x	nein
FUCS	x	nein
450	10	AS
650	10	AS
850	10	AS
1000	10	nein
1150	10	nein
1400	20	nein



EASY_IRON_IMP		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
450	0	nein
FUCS	x	nein
650	0	AS
FUCS	x	nein
800	0	AS
FUCS	x	nein
900	0	AS



CSR		
1/Min.	**Sek.**	**AS**
FUCS	x	nein
FUCS imp	x	nein
FUCS	x	nein
450	120	AS



AS indicates that the anti-foam function is active.

Function of the FUCS

"**FUCS**" is an English expression and means "**F**ast **U**nbalanced **C**ontrol **S**ystem"

Function:
The unbalance control includes 4 phases. These phases are of different duration and have different limits of unbalance. The magnitude of the unbalance is calculated every 300 ms, hereby the magnitude is compared to the fixed unbalance limits, and then it is decided whether the speed will be increased or reduced by 2 1/min. FUCS starts at 55 1/min and ends ideally when reaching 115 1/min.

Phase 0: When the unbalance threshold (850gr.) of the first phase is reached, the appliance performs a spin cycle with 100 1/min for 5 sec followed by a spin cycle pulse of 470 1/min.

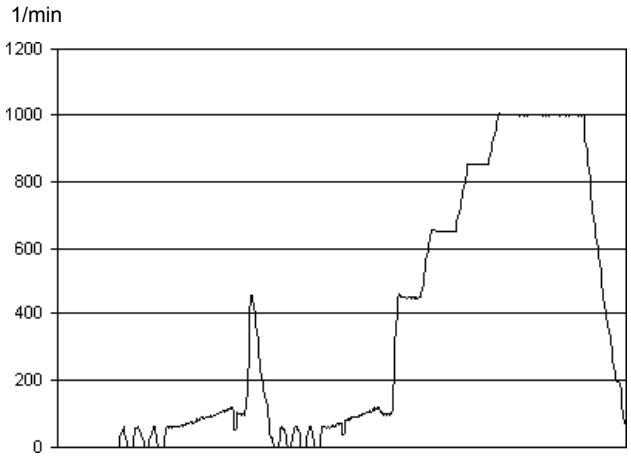
Phase 1: The first phase (350gr.) takes max. 120 sec to obtain the required speed of 115 1/min. If the speed is not reached after this 120 sec, the spinning cycle will be stopped. The laundry is dispersed and it is changed to phase 2.

Phase 2: Phase 2 (650gr.) takes max. 60 sec. Here it is tried to obtain the speed of 115 1/min with various unbalance limits. If the speed is not reached after 60 sec, the spinning cycle will be stopped again. The laundry is dispersed and it is changed to phase 3.

Phase 3: In phase 3 (1100gr.), the required speed is reduced to 85 1/min. Within 90 sec, speed should be reached, the machine then runs a spin-dry cycle at 100 1/min for 5 sec.and a subsequent spin-dry pulse at 470 1/min, then again starting by phase 1. If the speed is reached, a reduced spin-dry cycle at 650 1/min is carried out. If the speed is not reached, spin-dry is skipped.

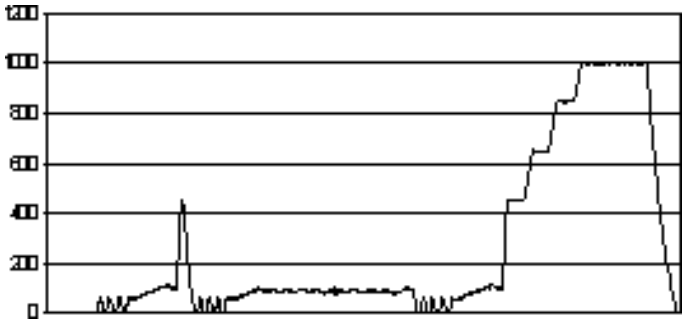
Perfect balance

- Reversing
- FUCS phase 0
  with spin-dry pulse
- Reversing
- FUCS phase 1
- regular spin-dry



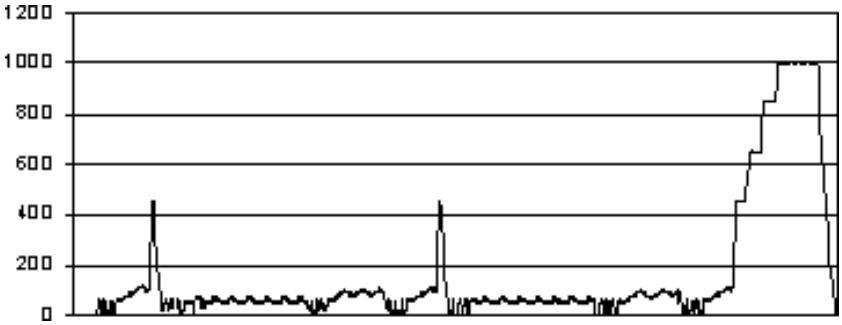
Balancing after two attempts

- Low speed
- FUCS phase 0
- FUCS phase 1
- FUCS phase 2



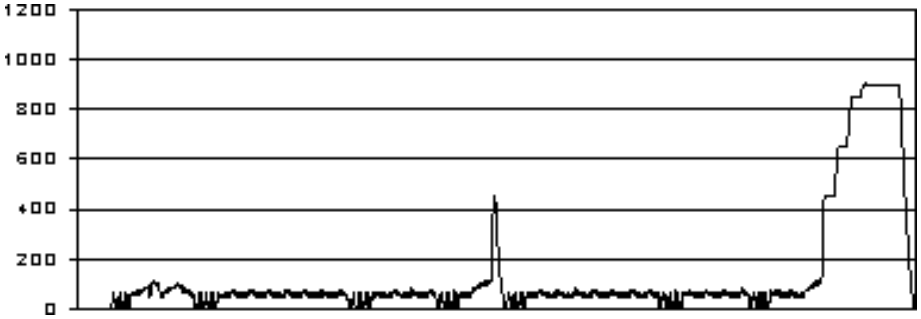
Balancing after the third phase (normal spin-speed)

- FUCS phase 0 with spin pulse
- FUCS phase 1
- FUCS phase 2
- FUCS phase 3 with spin pulse
- FUCS phase 1
- FUCS phase 2
- FUCS phase 3
- Normal spin



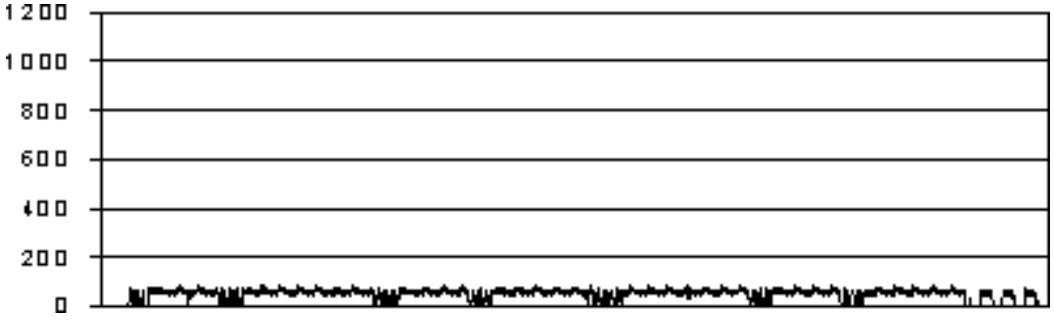
Balancing after the third phase (reduced spin-speed)

- FUCS phase 0
- FUCS phase 1
- FUCS phase 2
- FUCS phase 3 with spin pulse
- FUCS phase 1
- FUCS phase 2
- FUCS phase 3
- reduced-speed spin



Unalancing after the third phase

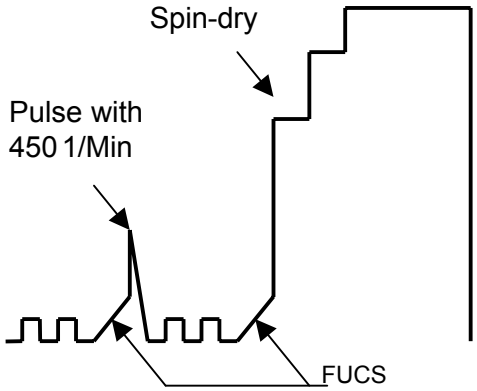
- FUCS phase 0
- FUCS phase 1
- FUCS phase 2
- FUCS phase 3
- FUCS phase 1
- FUCS phase 2
- FUCS phase 3
- no spin



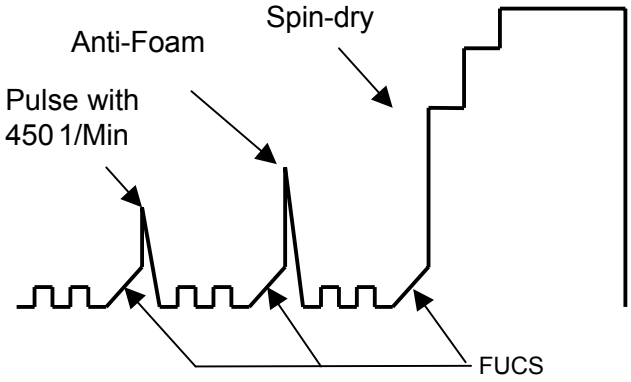
Foam Detection

Anti-foam control is excited via analog pressure switch.

Spin-dry phase without foam:



Spin-dry phase with little foam:



Spin-dry with little foam:

When the analogous pressure switch detects foam (45 mm “full”), the spinning cycle is stopped and the drain pump keeps on running until the foam level will be fallen below (15 mm “empty”) and the spinning cycle is continued.

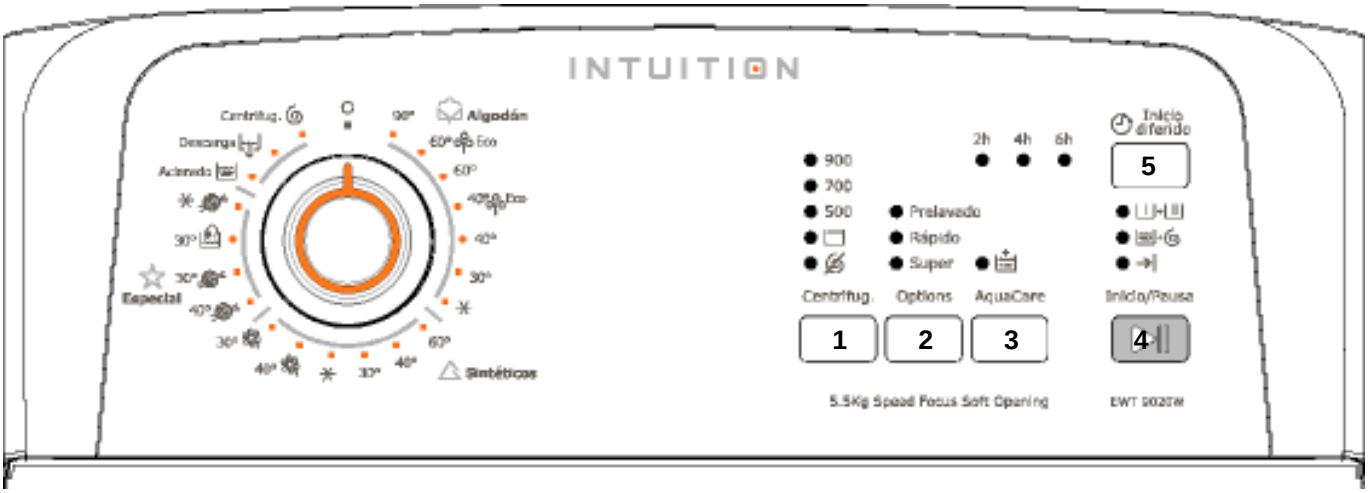
Spin-dry with excess foam:

When the analogous pressure switch detects a foam 5 times (45 mm “full”), the spinning will be skipped. Draining is carried out for 1 minute with the motor at stop. If too much foam is detected during any wash cycle, an additional rinse cycle is added.

Service Program

Fault indication by start / pause LED

- Switch off the appliance.
- Hold buttons 4 and 3 pressed simultaneously and turn the program selector one position to the right.
- Hold the two selected buttons pressed until possibly a buzzer will sound and/or the LED will give a light.
- By the program selector it is possible to interrogate the desired checking function according to the table.



Position of the rotary switch	Button	Test function
Off		Off
21 - 15 Positions		
01	Button 4 and Button 3	**1) Start of the customer service testprogram** **2) LED - Test** LEDs are step by step illuminated. If you press a button the according LED is on.
02		**Water channel mainwash** Water intake up to savety level fS Time max. 5 min Valve mainwash
03		**Water channel prewash** Water intake up to savety level fS Time max. 5 min Valve prewash
04		**Water channel softener** Water intake up to savety level fS Time max. 5 min Valve mainwash and prewash
05		**Water channel spots** Water intake up to savety level fS Time max. 5 min Valve spots or hotwater
06		**Heating and circulation pump** Heating up to 90°C Time max. 10 min Water intake over mainwash chamber
07		**Tub leakage test** Water intake over mainwash chamber up to 1. Niv. Motor rotation 250 1/min
08		**Draining and spinning** Draining Spinning up to maximium spin speed, if level < fSch
09		**DSP** The drum is positioned if level < fSch
10		Displaying the error code

Service Program

Fault indication by start / pause LED

Fault code		Type of fault	Remedy	Alarm Code		EWM2000	EWM1000 W1D00109	EWM1000 W1D00200	EWM1000plus	EWM2000EVO	EWM2000NEW	EWM3000NEW	ENV06
E10	E11	**No water filling** Water tap closed Valve does not open / interruption Valve flow rate to low Air trap system leaking Cable defect Electronic defect	 Open tap Change the valve Clean filter Replace air trap Cable pressure switch and electronic Replace electronic	1	S	X	X	X	X	X	X	X	X
	E13	**Not enough water** Wrong drain pipe position Valve flow rate to low Inlet valve defect Pressure switch defect Hose for pressure switch leakage or blocked	 Check the drain pipe position Clean filter Replace inlet valve Replace pressure switch Check the hose for the pressure switch	1	S		X	X	X	X	X	X	X
E20	E21	**No draining** Pump blocked / not working Pump interrupted Reduced pump output rate Pressure switch defect Pressure sensor defect Electronic defect	 Remove foreign object Replace drainpump Check draining system Replace pressure switch Replace pressure sensor Replace electronic	0	S	X	X	X	X	X	X	X	X
	E23	Incongruence between drainpump and electronic	Replace drainpump, Cable drainpump	2	A		X	X	X	X	X	X	X
	E24	Drain pump triac sensing failure 1 Input voltage allways 0V or 5V	Replace electronic	2	A		X	X	X	X	X	X	X
E30	E31	Pressure sensor defect Frequency of the pressure sensor out of limit Cable interrupted	Replace pressure sensor Replace cable	1	A	X				X	X	X	X
	E32	Calibration problems pressure sensor After initial calibration the waterlevel not in between 0 - 66mm and antiboil level off	Open tap Replace inlet valve Clean filter Replace air trap, Replace pressure sensor	0	S	X				X	X	X	X

Service Program

Fault indication by start / pause LED

Fault code		Type of fault	Remedy	Alarm Code		EWM2000	EWM1000 W1D00109	EWM1000 W1D00200	EWM1000plus	EWM2000EVO	EWM2000NEW	EWM3000NEW	ENV06
	E33	Incongruence betw een pressure sensor and antiboil level 1 Fault has to be for a time longer than 60 sec.	Replace pressure sensor Replace cable Replace air trap	1	A	X				X	X	X	
	E33	Incongruence betw een pressure sw itch Niv.1 and antiboil level 1 Fault has to be for a time longer than 3 sec.	Replace pressure sw itch, Replace electronic Replace heating element Cable pressure sw itch and electronic	1	A		X	X	X				
	E34	Incongruence betw een pressure sensor and antiboil level 2 Fault has to be for a time longer than 60 sec.	Replace pressure sensor Replace cable Replace air trap	1	A	X				X	X	X	
	E35	Safety level (Pressure sensor) Level has to be 300mm for a time of more than 15 sec Drain pump w ill be activated until level is below 120 mm	Replace pressure sensor Replace cable Replace air trap	1	A	X				X	X	X	
	E35	Safety pressure sw itch on for a time longer than 15 sec.	Replace inlet valve, Replace electronic Air trap system leaking Replace pressure sw itch Cable pressure sw itch and electronic	2	A		X	X	X				X
	E36	Antiboil 1 sensing failure 1 Input voltage allw ays 0V	Replace electronic	1	A	X	X	X	X	X	X	X	
	E37	Antiboil 2 sensing failure 1 Input voltage allw ays 0V or 5V	Replace electronic	1	A	X				X	X	X	
	E37	Pressure sw itch Niv.1 sensing failure Inputvolt. allw ays 0V or 5V	Replace electronic	1	A		X	X	X				
	E38	Airtrap blocked No pressure differences detected	Change airtrap Clean airtrap	1	A	X				X	X	X	
	E39	sensing failure Inputvolt. allw ays 0V	Replace electronic	1	A		X	X	X	X	X	X	
	E3A	Heating element relay defect	Replace electronic	1	A					X	X	X	X
E40	E41	**Lid open** Door lock defect Cable defect Electronic defect	 Replace doorlock Replace cable Replace electronic	0	S	X	X	X	X	X	X	X	X
	E42	Door lock defect Door is unlocked during the cycle Tout 15 sec Door is not unlocking at the end of cycle Tout 4 min	Replace doorlock Replace cable Replace electronic	0	S	X	X	X	X	X	X	X	X

Service Program

Fault indication by start / pause LED

Fault code		Type of fault	Remedy	Alarm Code		EWM2000	EWM1000 W1D00109	EWM1000 W1D00200	EWM1000plus	EWM2000EVO	EWM2000NEW	EWM3000NEW	ENV06
	E43	Door lock triac defect	Replace doorlock, Replace cable Replace electronic	0	A	X	X	X	X	X	X	X	X
	E44	Door lock sensing failure Inputvoltage allways 0V or 5V	Replace electronic	1	A	X	X	X	X	X	X	X	X
	E45	Door lock triac sensing failure Inputvoltage allways 0V or 5V	Replace electronic	1	A	X	X	X	X	X	X	X	X
E50	E51	Motortriac short circuit Motor cable short circuit	Replace cable Replace electronic	1,6	A	X	X	X	X	X	X		X
	E52	No signal from tachogenerator Motor blocked Motor cable defective	Replace tachognerator Replace motor Replace cable Replace electronic	1,6	A	X	X	X	X	X	X	X	X
	E53	Motor triac sensing failure Input voltage allways 0V or 5V	Replace electronic	1	A	X	X	X	X	X	X		X
	E54	Motor relay defect	Replace electronic	1,6	A	X	X	X	X	X	X		X
	E55	Motor circuit interrupted	Replace motor, Replace cable	1	A	X							
	E56	No signal from tachogenerator, No signal after 15 min	Replace tachognerator	1	A	X							
	E57	Inverter current goes above threshold (>15A)	Replace motor, replace cable Replace motor control board	1,6	A							X	X
	E58	Motor phase current goes above threshold (>4,5A)	Replace motor, replace cable Replace motor control board	1,6	A							X	X
	E59	No tacho signal for 3 seconds after new speed target different from zero	Replace motor, replace tachogenerator Replace motor control board, replace cable	1,6	A							X	X
	E5A	Heat Sink temperature goes above threshold (88°C)	Replace motor control board	1,6	A							X	X
	E5B	DC bus voltage goes below threshold (<175V)	Replace motor control board, replace cable	1,6	A							X	X
	E5C	DC bus voltage goes above threshold (>430V)	Replace motor control board	1,6	A							X	X
	E5D	FCV cannot receive and/or transmit a message for more than 2 seconds	Replace cable	1,6	A							X	X
	E5E	There are communication problems in between FCV control board and mainboard	Replace electronic	1	A							X	X
	E5F	FCV control board is continuously asking for configuration parameters due to repetitive reset	Replace motor control board, replace cable Replace electronic	1	A							X	X

Service Program

Fault indication by start / pause LED

Fault code		Type of fault	Remedy	Alarm Code		EWM2000	EWM1000 W1D00109	EWM1000 W1D00200	EWM1000plus	EWM2000EVO	EWM2000NEW	EWM3000NEW	ENV06
E60	E61	Insufficient heating Maximum heating time expired NTC defective Heating element defect Connection heating element interrupted	Replace NTC Replace heating element Replace cable	3	S	X	X	X	X	X	X	X	X
	E62	**Overheating:** Temperature greater 88°C for a time longer than 5 min NTC defective Cable defective	 Replace NTC Replace heating element Replace cable	2	A	X	X	X	X	X	X	X	X
	E66	Heating element defect Incongruence betw een antiboil 2 and relay	Replace pressure sw itch antboil 2 Replace cable	2	A	X							
	E66	Heating element defect Incongruence betw een antiboil 1 and relay	Replace pressure sw itch antboil 1 Replace electronic Replace cable	2	A		X	X	X	X	X	X	X
	E68	Leakage current in the appliance too high.	Replace heating element or replace other components	7	A								X
E70	E71	NTC short circuit NTC interruption	Replace NTC, Replace electronic Replace cable	3	S	X	X	X	X	X	X	X	X
	E74	NTC isn't in the correct position in the tub	Check the position	3	S				X	X	X	X	X
E80	E82	Wrong selector reset postion detection	Replace electronic		A		X	X	X	X	X	X	X
	E83	Wrong selector reading	Wrong configuration of the machine Replace electronic	4	S		X	X	X	X	X	X	X
	E84	Recirc. pump sensoring failure Input voltage allw ays 0V or 5V	Replace electronic	1	A	X				X	X	X	X
	E85	Recirculation pump defect Triac defective	Replace recirculation pump Replace electronic	2	A	X				X	X	X	X
E90	E91	Interrupted communication betw een In/Output electronic and mainelectronic	Replace cable, Replace electronic Replace In/Output electronic	0	A	X			X	X	X	X	X
	E92	Incongruence betw een In/Output electronic and electronic	In/Output electronic is incompatible w ith electronic	1	A	X			X	X	X	X	X
	E93	Configuration error	Wrong configuration of the machine	1	A	X	X	X	X	X	X	X	X
	E94	Lost of cycle datas	Wrong configuration of the machine Replace electronic	1	A	X	X	X	X	X	X	X	X

Service Program

Fault indication by start / pause LED

Fault code		Type of fault	Remedy	Alarm Code		EWM2000	EWM1000 W1D00109	EWM1000 W1D00200	EWM1000plus	EWM2000EVO	EWM2000NEW	EWM3000NEW	ENV06
	E95	Communication error between microprocessor and EEPROM	Replace electronic	0	A		X	X	X	X	X	X	X
	E96	Incongruence between Hardware-version and cycles configuration	Wrong configuration of the machine Replace electronic	0	A		X	X					
	E97	Incongruence between selector and cycles configuration	Wrong configuration of the machine Replace electronic	0	A		X	X	X	X	X	X	X
	E98	Incongruence between motor control board and electronic	Replace electronic Replace wiring	0	A								X
	E99	Connection between loudspeaker and In/Output electronic	Replace loudspeaker Replace wiring	0	A					X	X		
	E9A	Firmware between loudspeaker and In/Output electronic not ok	Replace In/Output electronic	0	A					X	X		
EA0	EA1	DSP defect	Replace DSP, Replace electronic Replace wiring, Cut drive belt	5	S	X	X	X	X	X	X	X	X
	EA2	DPS sensing defect	Replace electronic			X							
	EA3	DPS unable to lock motor pully	Replace DSP, Replace electronic Replace wiring, Cut drive belt			X							
	EA4	DPS defect	Replace DPS Replace electronic Replace wiring			X							
	EA5	Triac for DPS defect	Replace electronic			X							
	EA6	Drum have blocked in the first ca. 30sec.	Cut drive belt, Replace DSP Drum lid not closed	0	A			X	X	X	X	X	
	EA6	Drum have blocked in the first ca. 3sec.	Cut drive belt, Replace DSP Drum lid not closed	0	A								X
EB0	EB1	Power supply frequency out of limits	Wrong or disturbed power supply line Replace electronic	0	A		X	X	X	X	X	X	
	EB2	Power supply voltage too high	Wrong or disturbed power supply line Replace electronic	0	A		X	X	X	X	X	X	
	EB3	Power supply voltage too low	Wrong or disturbed power supply line Replace electronic	0	A		X	X	X	X	X	X	
	EBE	Line Safe relay faulty	Replace electronic	2	A							X	
	EBF	Line Safe "sensing" faulty	Replace electronic	2	A							X	

Service Program

Fault indication by start / pause LED

Fault code		Type of fault	Remedy	Alarm Code		EWM2000	EWM1000	EW1D0109	EWM1000	EW1D0200	EWM1000plus	EWM2000EVO	EWM2000NEW	EWM3000NEW	ENV06
EC0	**EC1**	Inlet valve blocked	Replace inlet valve, Replace electronic Replace wiring	2	A							X			X
	EC2	Turbidity sensor defect	Replace turbidity sensor									X			
EF0	**EF1**	Filter dirty Drainhose closed Time for draining to long	Cleaning drainhose and filter Checking drainpump		S	X					X	X	X	X	X
	EF2	Detergent overdosing To much foam during the drain phase Filter dirty Drainhose closed	Cleaning drainhose and filter Checking drainpump Not overdosing	6	A	X					X	X	X	X	X
	EF3	Aqua Control system activated Drain pump cable defective Drain pump interruption	Leakage in the machine Replace cable Replace drain pump	2	A	X					X	X	X	X	X
	EF4	No signal from flow meter with electro valves switched on	Water tap closed or mains pressure insufficient.	0								X		X	X
	EF5	Interrupted the spinning phase Unbalance to high, unbalance >1200gr	Pay attention to the quantity of laundry, check stationary behaviour of washer	0											X
EH0	**EH1**	Power supply frequency out of limits	Wrong or disturbed power supply line Replace electronic	0	A										X
	EH2	Power supply voltage too high	Wrong or disturbed power supply line Replace electronic	0	A										X
	EH3	Power supply voltage too low	Wrong or disturbed power supply line Replace electronic	0	A										X
	EHE	Line Safe relay faulty	Replace electronic	2	A										X
	EHF	Line Safe "sensing" faulty	Replace electronic	2	A										X

Service Program

Fault indication by start / pause LED

Composition alarm codes			
Alarm state		Reactivate the machine with	
0	Program cycle interrupted	**S**	Start Button
1	Program cycle interrupted Door locked	**A**	Off / On
2	Program cycle stopped Drain pump is activatedt		
3	Heating step is skipped		
4	Program canceled		
5	DSP-function is skipped		
6	after 5 attempt		

Service Program

Rapid reading of alarm codes

The last alarm code can be displayed even if the programme selector is not in the 10th position (service test mode) or if the appliance is in normal operating mode (e.g. during the execution of an washing programme):

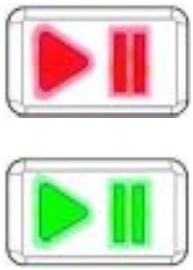
- Keep buttons 4 and 3 pressed in together.
- The alarm sequence continues as long as the two buttons are held down
- While the alarms are displayed, the appliance continues to perform the cycle or, if in the programme selection phase, maintains the previously-selected options in memory.

Indication of error code through LEDs

The error code is additionally indicated by the START/PAUSE LED.
The START/PAUSE LED is a double LED with colors red and green.
When the red LED is flashing (0.5 sec on, 0.5 sec off), the alarm family will be indicated, when the green LED is flashing afterwards, the alarm number will be indicated.

e.g. EA4

- E**A**4 ---> red LED flashes 10 x
- pause of 1.5 sec
- EA**4** ---> green LED flashes 4 x
- pause of 2.5 sec, then repetition



Alarm codes	flashing
1	1 x
:	:
9	9 x
A	10 x
B	11 x
:	:
H	17 x

Cancelling the last alarm

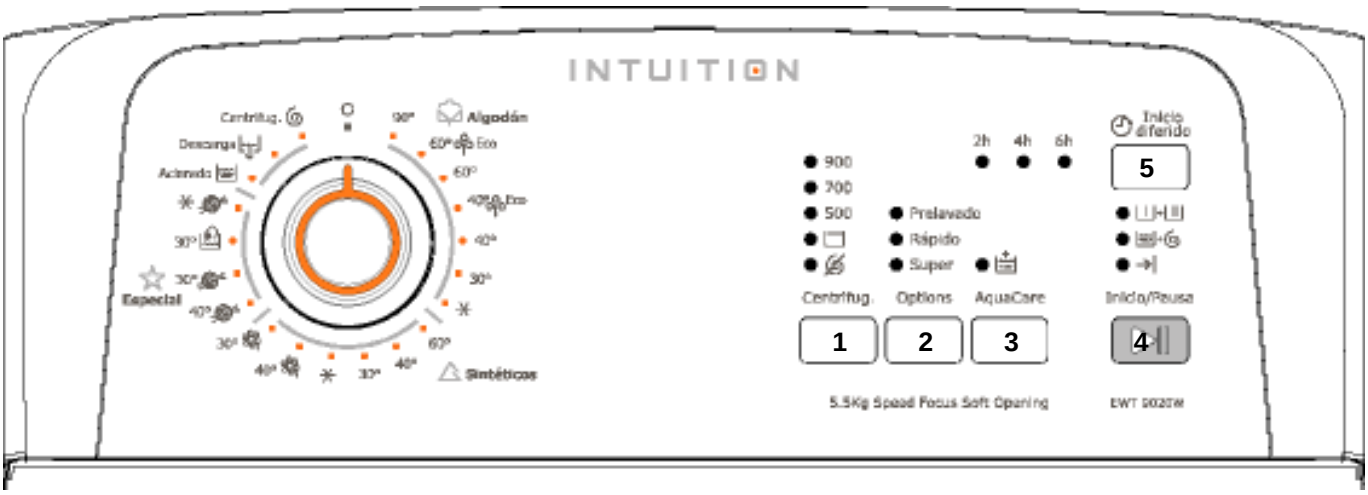
- Enter service test program (page 30)
- Press buttons 4 and 3 in together and keep them pressed in until the LCD E00.

It is good practice to cancel the last alarm:

- after reading the alarm code, to check whether the alarm re-occurs during diagnostics
- after repairing the appliance, to check whether it re-occurs during testing.

Demo-Programm

Activate the demo - program



These appliances have a Demo-Mode for demonstration purposes.

main electronic EWM1100 Software **WAC101..**

1. Access to demo program

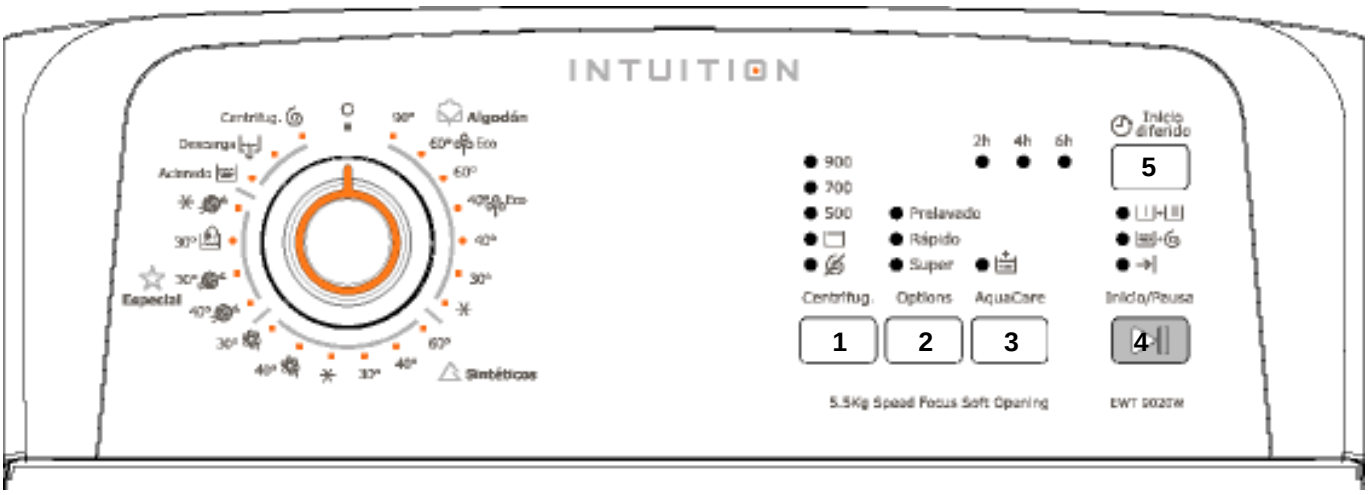
- Switch off the appliance.
- Keep buttons 4 and 3 pressed in together and rotate the programme selector three positions to the right.
- Keep both selected keys pressed for about 2 seconds.
- You can select the individual programs and the associated option keys by using the program selector switch.
  The key start/pause is disabled.
- The demo program will remain in the memory even if the appliance is switched Off.

2. Adandoning the demo program

- Switch off the appliance.
- Keep buttons 4 and 3 pressed in together and rotate the programme selector three positions to the right.
- Keep both selected keys pressed for about 2 seconds.
- Switch Off the appliance to deactivate the demo program.

Electronic-Test

Activate the electronic-test



1. Access to the electronic-test

- Switch off the appliance.
- Hold buttons 4 and 3 pressed simultaneously and turn the program selector one position to the right.
- Keep both selected keys pressed for about 2 seconds.
- Hold buttons 4 and 3 together and pressed again.
- Switch off and on the appliance
- The electronic-test it running
    - Filling till 1. Niveau
    - Movement with 50 1/min.
    - Heating up to max. 50°C or 20min duration.

2. Adandoning the elektronik-test

- Switch off the appliance.

Circuit Diagram

Technicl Specifications

GENERAL FEATURES

Supply voltage ..... 230 V
Dimensions (height, width, depth) ..... 85/40/60 cm
Dryclothes loading capacity ..... 5,5 kg
Drum rotation speed (washing/spinning)55/600-1500 r.p.m
Intermediate speed ..... 1000 r.p.m
Intermediate speed ..... 850 r.p.m

WATER LOAD CAPACITY (without clothes) :
Heating Level I ..... 2 l
Heating Level II ..... 2 l
Anti-overflow level ..... 43 l

WATER PRESSURE :
Max./Min. ..... 0,8/0,05 MPa

CONSUMPTIONS (COTTON 60°) :
see energie label

TECHNICAL PARTICULARS

DRAIN PUMP :
Maxi head ..... 100 cm
Mini head ..... 70 cm
Delivery rate ..... 25 l/min
Power absorbed ..... 30 W
Winding resistance ..... 164/224 ohm

HEATING ELEMENT :
Power absorbed ..... 1950 W
Resistance ..... 27 ohm

WATER VALVE :
Delivery rate ..... 5,5 l/min
Coil resistance ..... 4300 ohm

CYCLING PUMP :
Delivery rate ..... 12 l/min
Power absorbed ..... 18 W
Winding resistance ..... 200 ohm

DOOR INTERLOCK :
Type ..... voltmetric
Internal door locking ..... 0,02 s
Internal door release ..... 0,02 s

DOOR INTERLOCK :
Type ..... voltmetric
Internal door locking ..... 6 s
Internal door release ..... 40-120 s

WATERSAFETY SYSTEM :
Type 110539011

TEMPERATURE PROBE (NTC) ..... 6 kohm at 20°C

PRESSURE SWITCH ANALOGIC :
Analogic Level ..... 000 mm - 44,7 Hz
Analogic Level ..... 300 mm - 36,1 Hz

USER INTERFACE : EWM1100
Indentification mark ..... 13251500.
Indentification mark ..... 13251501.
Indentification mark ..... 13251502.
Indentification mark ..... 13251503.

DOOR POSITIONNING (electric):
Indentification mark 146132000

CONNECTION :
Water supply connection ..... 1,5 m long
Water discharge connection height ..... mini 70 / maxi 100 cm
Total power ..... 2300 W

COLLECTOR MOTOR :

Pulley ratio 10,2
Insulation class ..... F
Spinning speed ..... 1450 r.p.m
Winding resistance (1-2) ..... 5,44 ohm
Winding resistance (3-2) ..... 5,44 ohm
Winding resistance (1-3) ..... 5,44 ohm
TACHOGENERATOR:
Resistance (5-4) ..... 115 ohm

Pulley ratio 10,4
Insulation class ..... B/F
Spinning speed ..... 1450 r.p.m
Winding resistance (3-4) ..... 2,20 ohm
Winding resistance (1-2-5) ..... 0,55 ohm
Winding resistance (2-5) ..... 1,10 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 135 ohm

Pulley ratio 10,4
Insulation class ..... B/F
Spinning speed ..... 1450 r.p.m
Winding resistance (3-4) ..... 1,78 ohm
Winding resistance (1-2-5) ..... 0,60 ohm
Winding resistance (2-5) ..... 1,75 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 68,7 ohm

Pulley ratio 12
Insulation class ..... B/F
Spinning speed ..... 1250 r.p.m
Winding resistance (3-4) ..... 1,73 ohm
Winding resistance (1-2-5) ..... 1,10 ohm
Winding resistance (2-5) ..... 1,70 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 15,1 ohm

Pulley ratio 12
Insulation class ..... B/F
Spinning speed ..... 1250 r.p.m
Winding resistance (3-4) ..... 1,65 ohm
Winding resistance (1-2-5) ..... 0,62 ohm
Winding resistance (2-5) ..... 1,23 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 135 ohm

Pulley ratio 12
Insulation class ..... B/F
Spinning speed ..... 1150 r.p.m
Winding resistance (3-4) ..... 1,90 ohm
Winding resistance (2-5) ..... 1,30 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 68,7 ohm

Pulley ratio 14
Insulation class ..... B/F
Spinning speed ..... 1050 r.p.m
Winding resistance (3-4) ..... 1,62 ohm
Winding resistance (2-5) ..... 1,67 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 15,1 ohm

Pulley ratio 14
Insulation class ..... B/F
Spinning speed ..... 1050 r.p.m
Winding resistance (3-4) ..... 2,46 ohm
Winding resistance (2-5) ..... 1,86 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 68,7 ohm

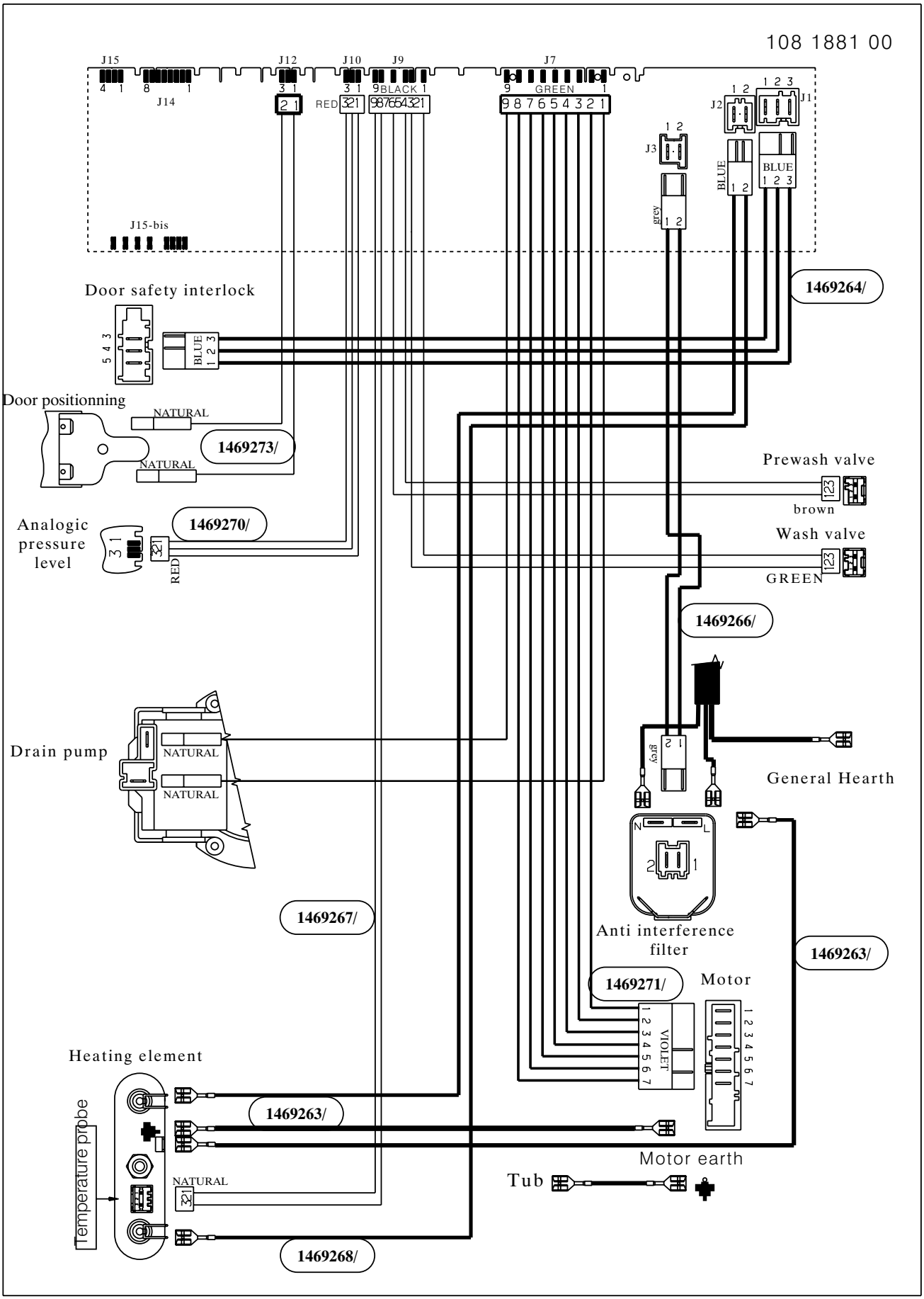
Pulley ratio 18
Insulation class ..... B/F
Spinning speed ..... 850 r.p.m
Winding resistance (3-4) ..... 1,62 ohm
Winding resistance (2-5) ..... 1,67 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 15,1 ohm

Pulley ratio 18
Insulation class ..... B/F
Spinning speed ..... 850 r.p.m
Winding resistance (3-4) ..... 2,25 ohm
Winding resistance (2-5) ..... 1,83 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 68,7 ohm

Pulley ratio 21
Insulation class ..... B/F
Spinning speed ..... 600 r.p.m
Winding resistance (3-4) ..... 3,82 ohm
Winding resistance (2-5) ..... 3,58 ohm
TACHOGENERATOR:
Resistance (6-7) ..... 68,7 ohm

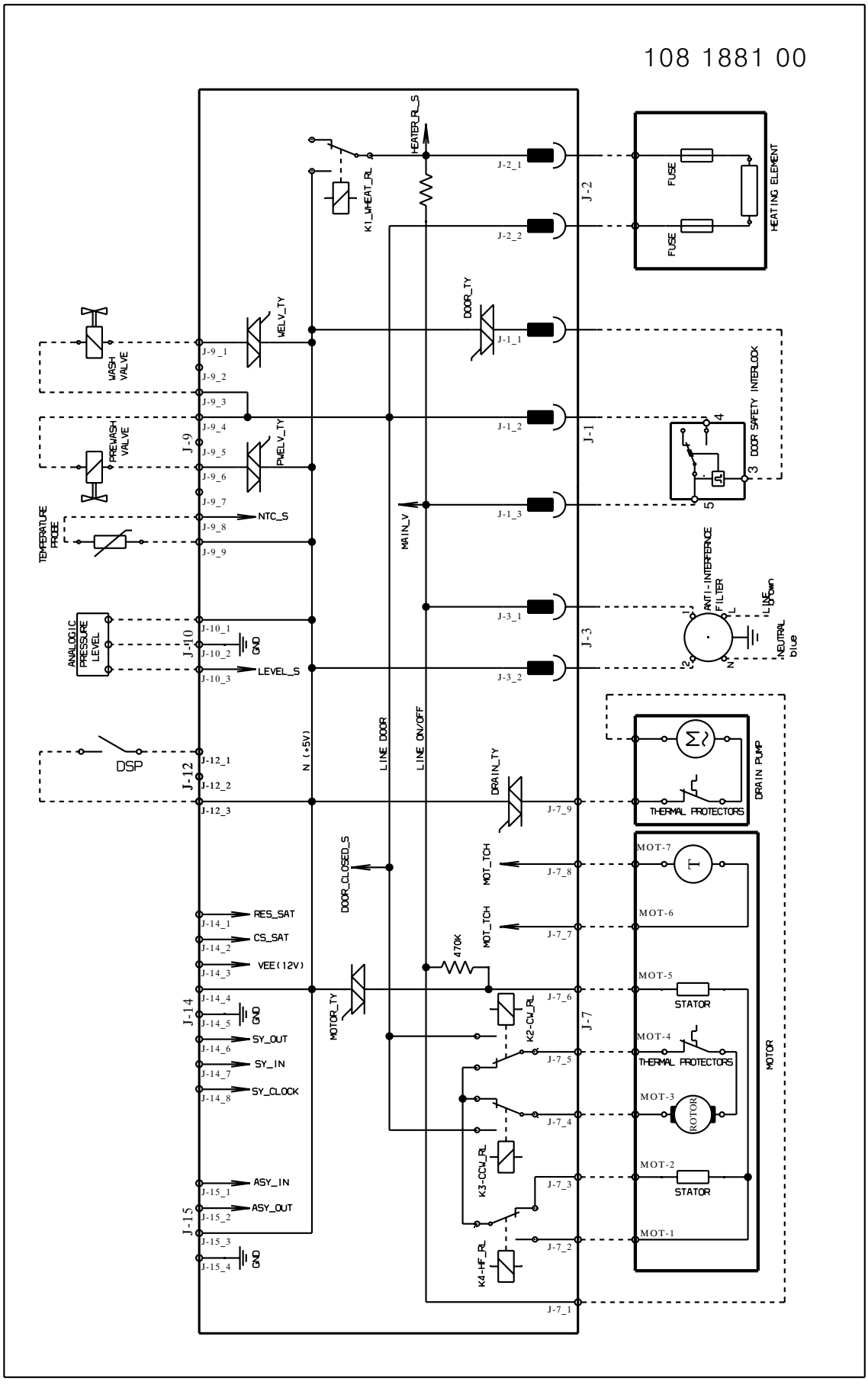
Circuit Diagram

Wiring Diagram



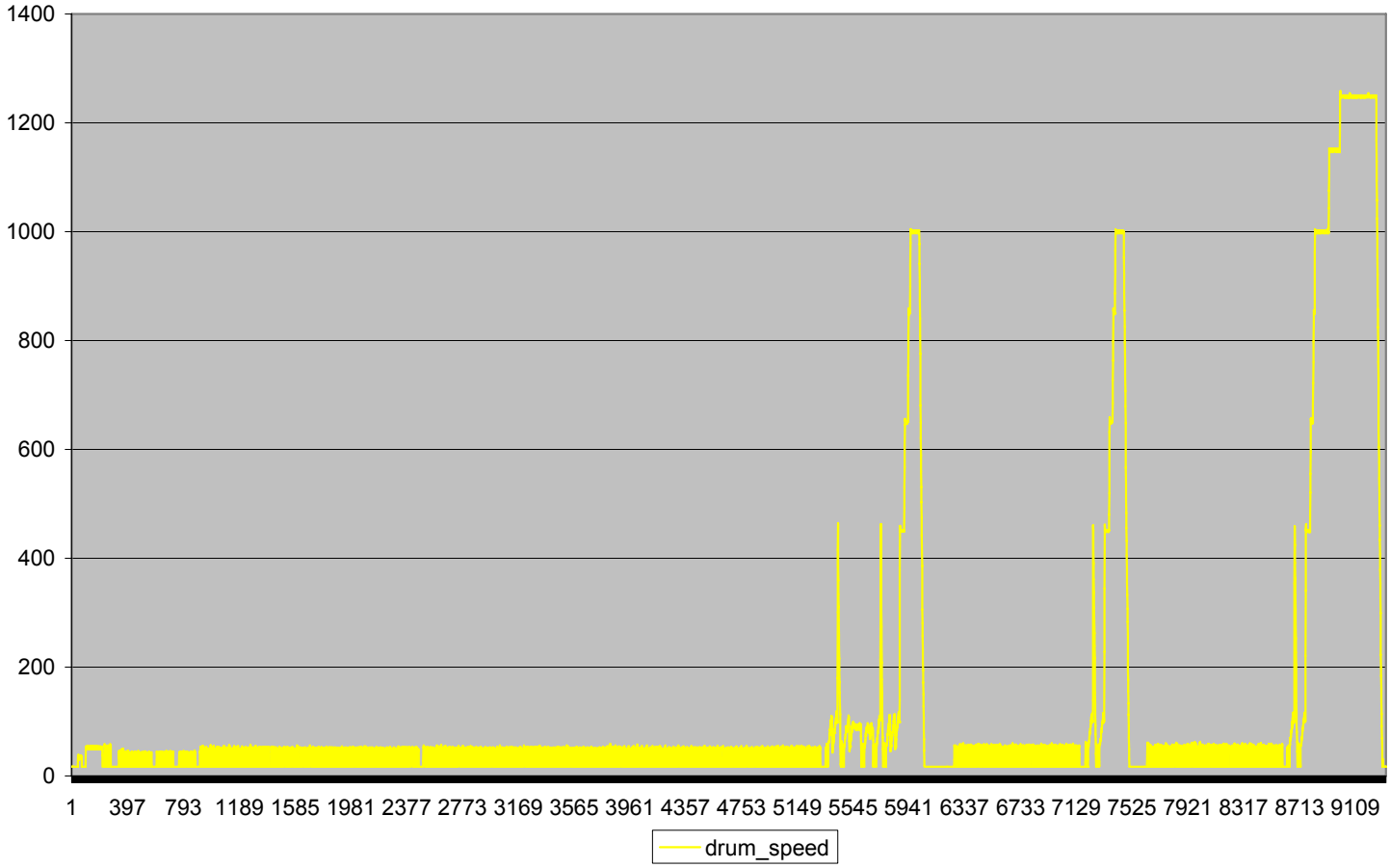
Circuit Diagram

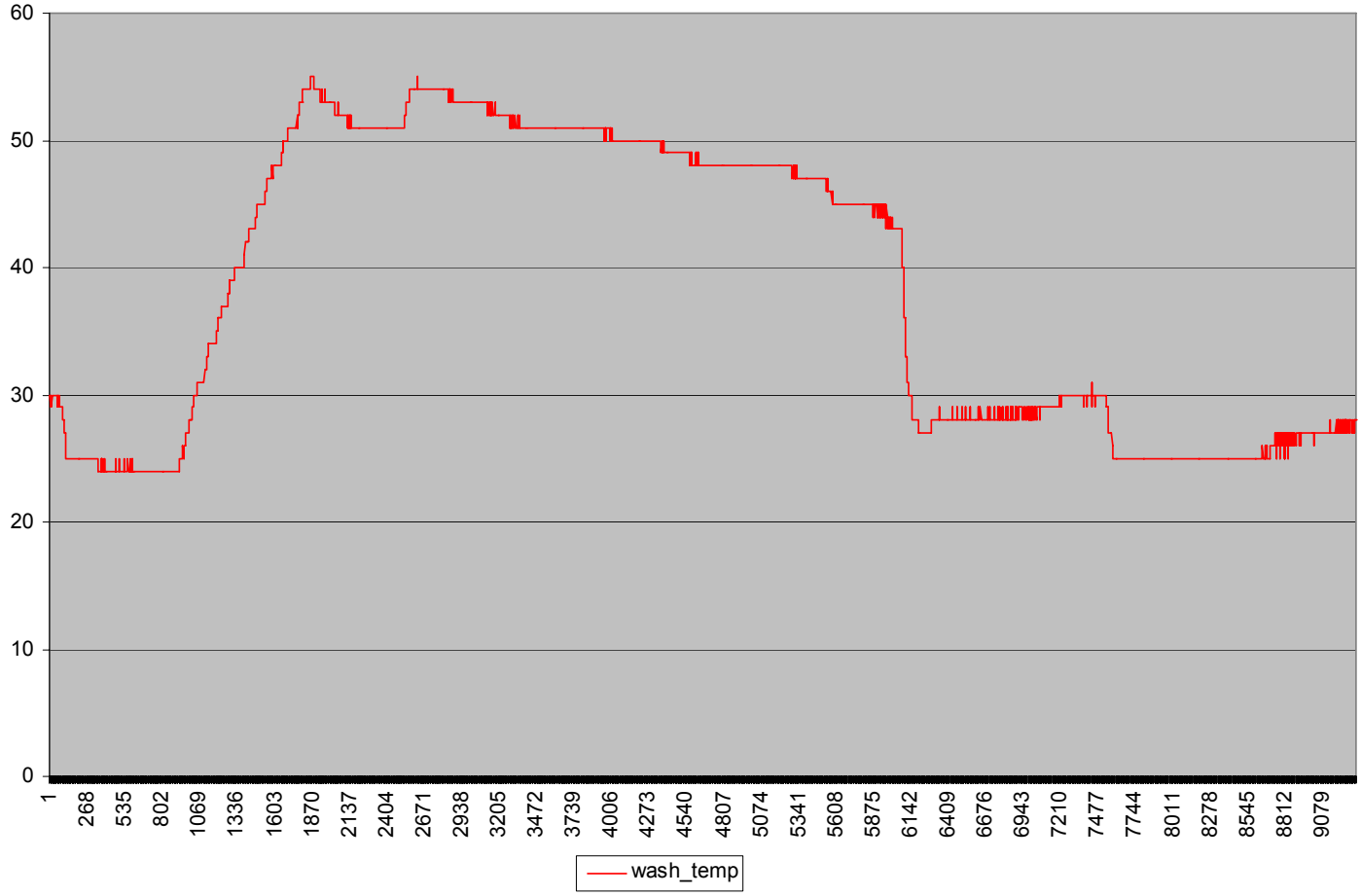
Elementary Diagram



Program cycles

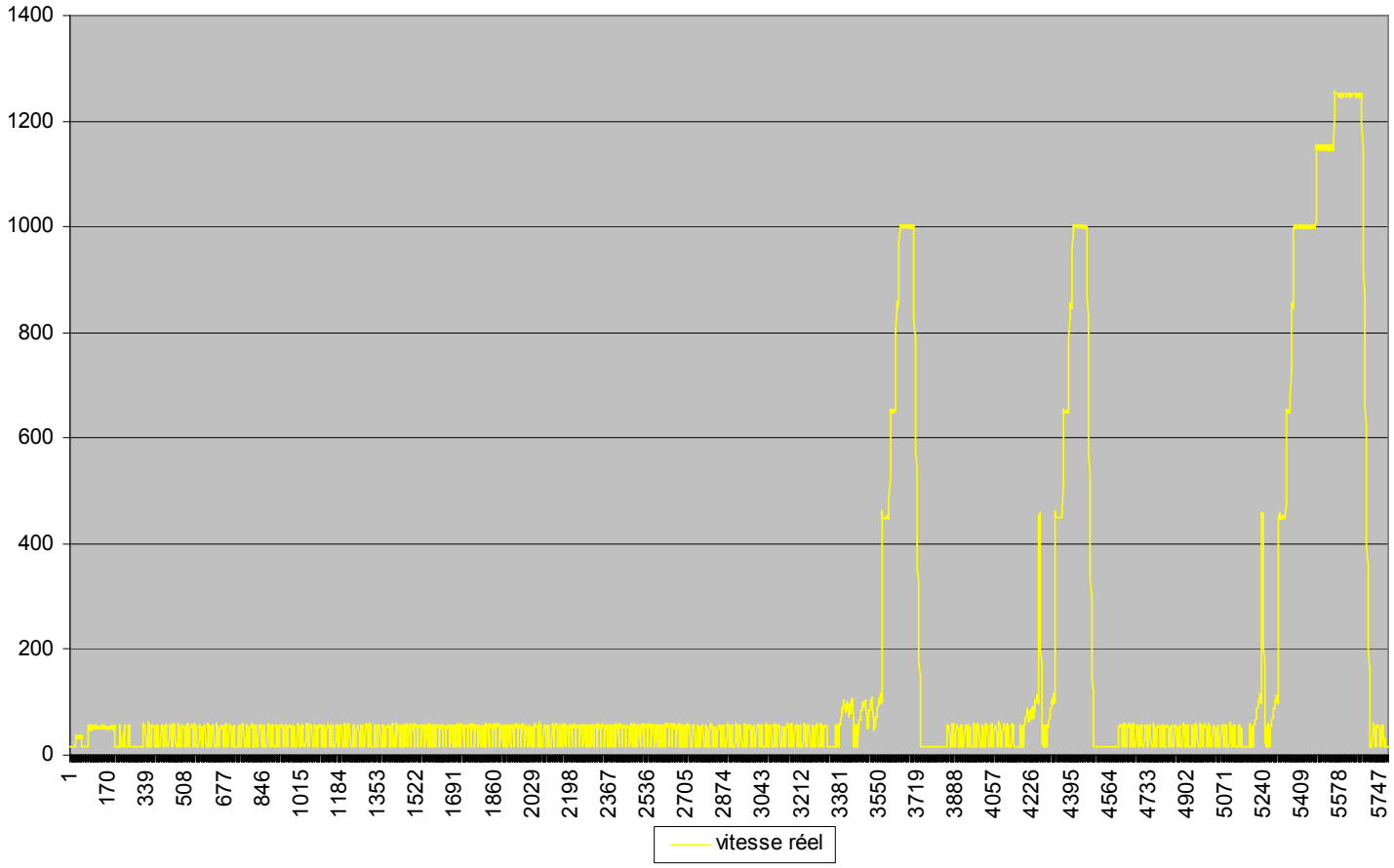
Cotton / Coloured 60° ECO (without options) Software WAC101..

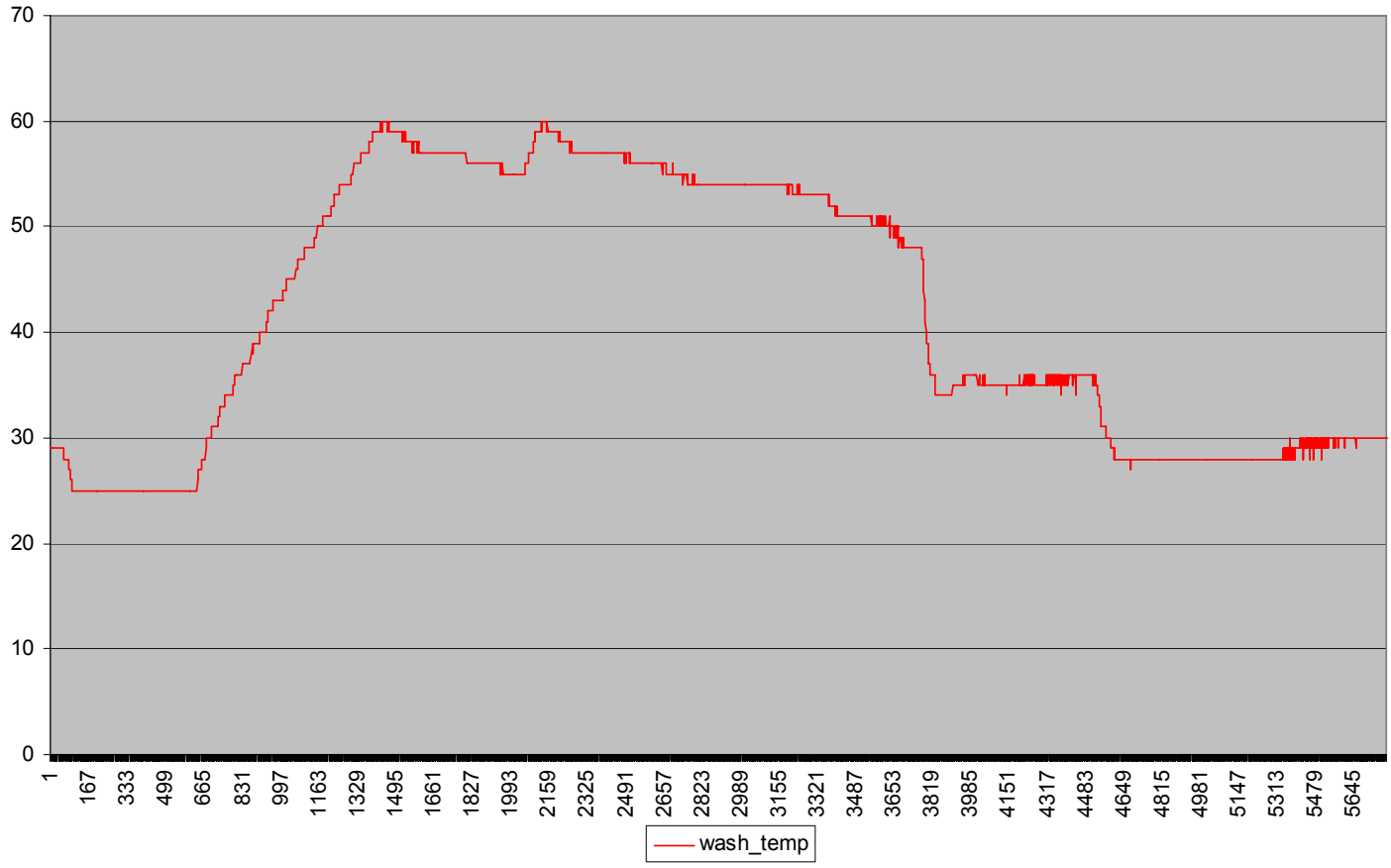




Program cycles

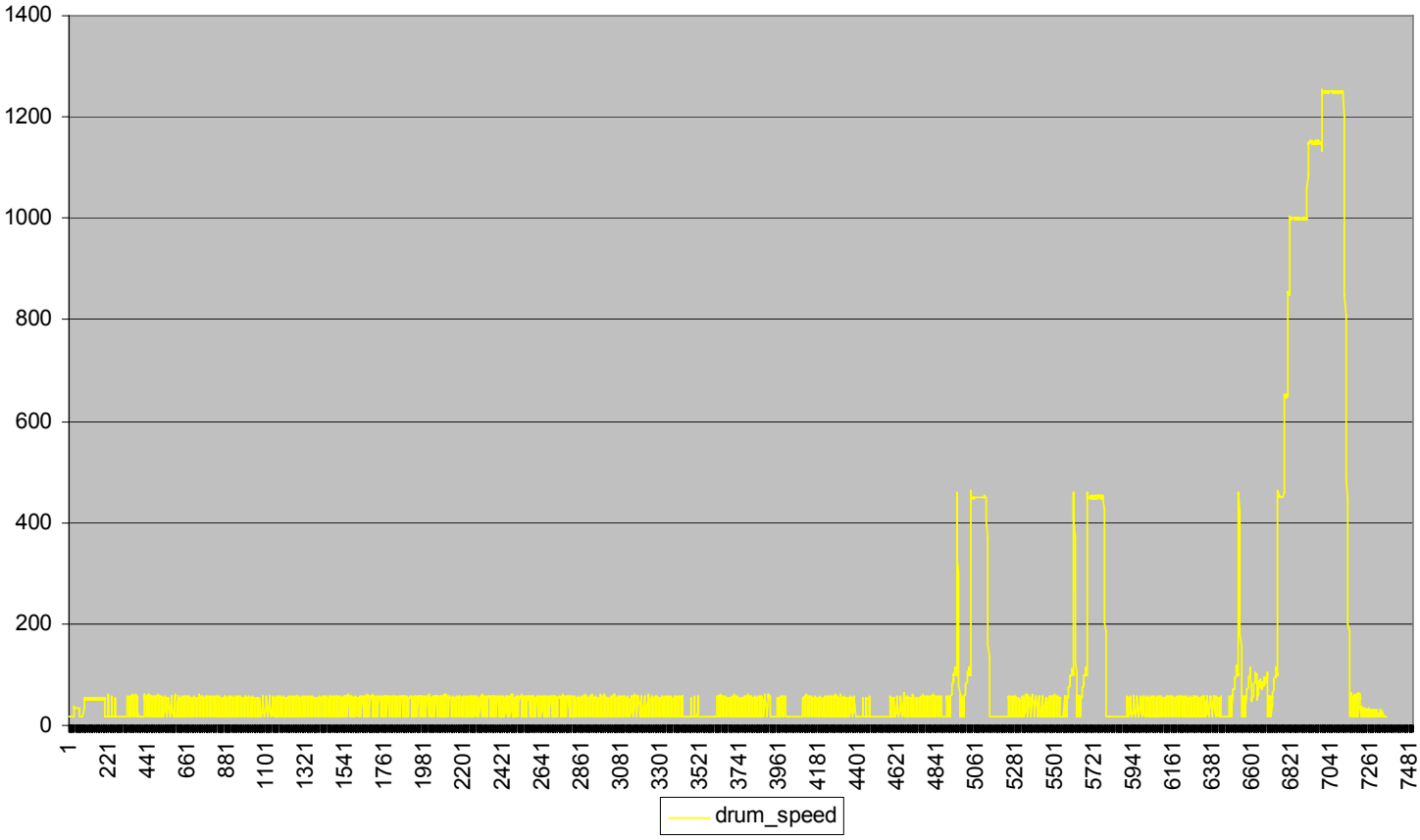
Cotton 60° (without options) Software WAC101..

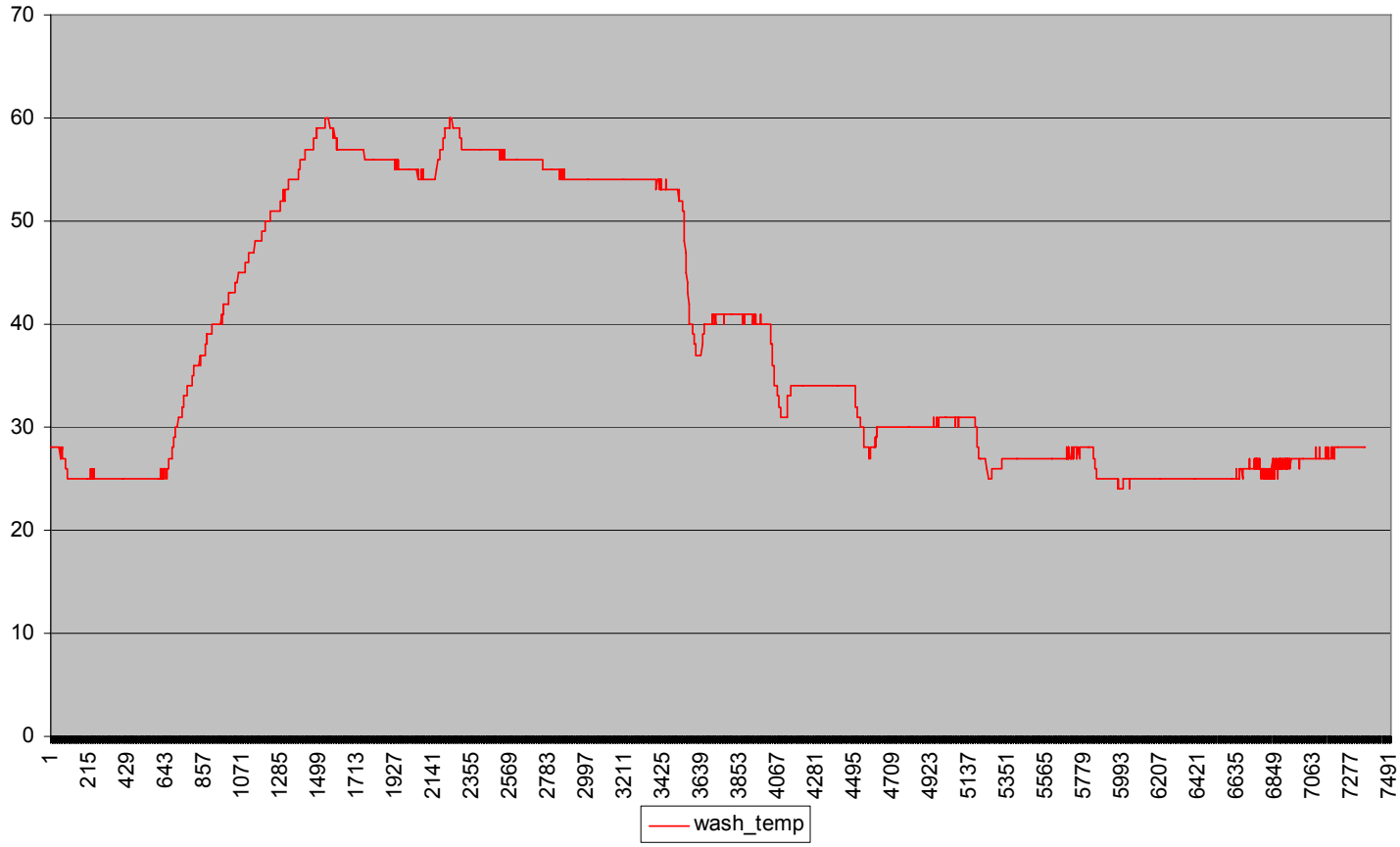




Program cycles

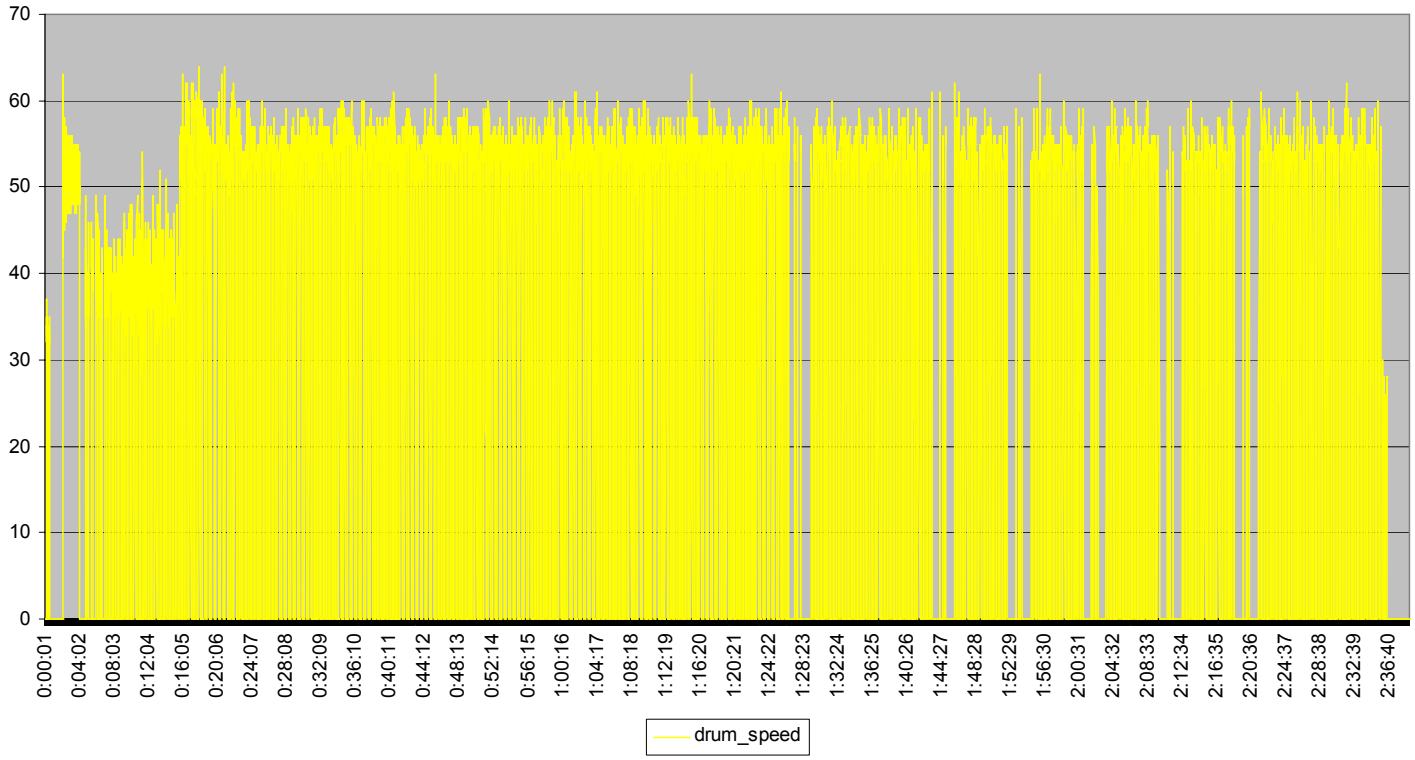
Cotton / Cloured 60° + Rinse+ Software WAC101..

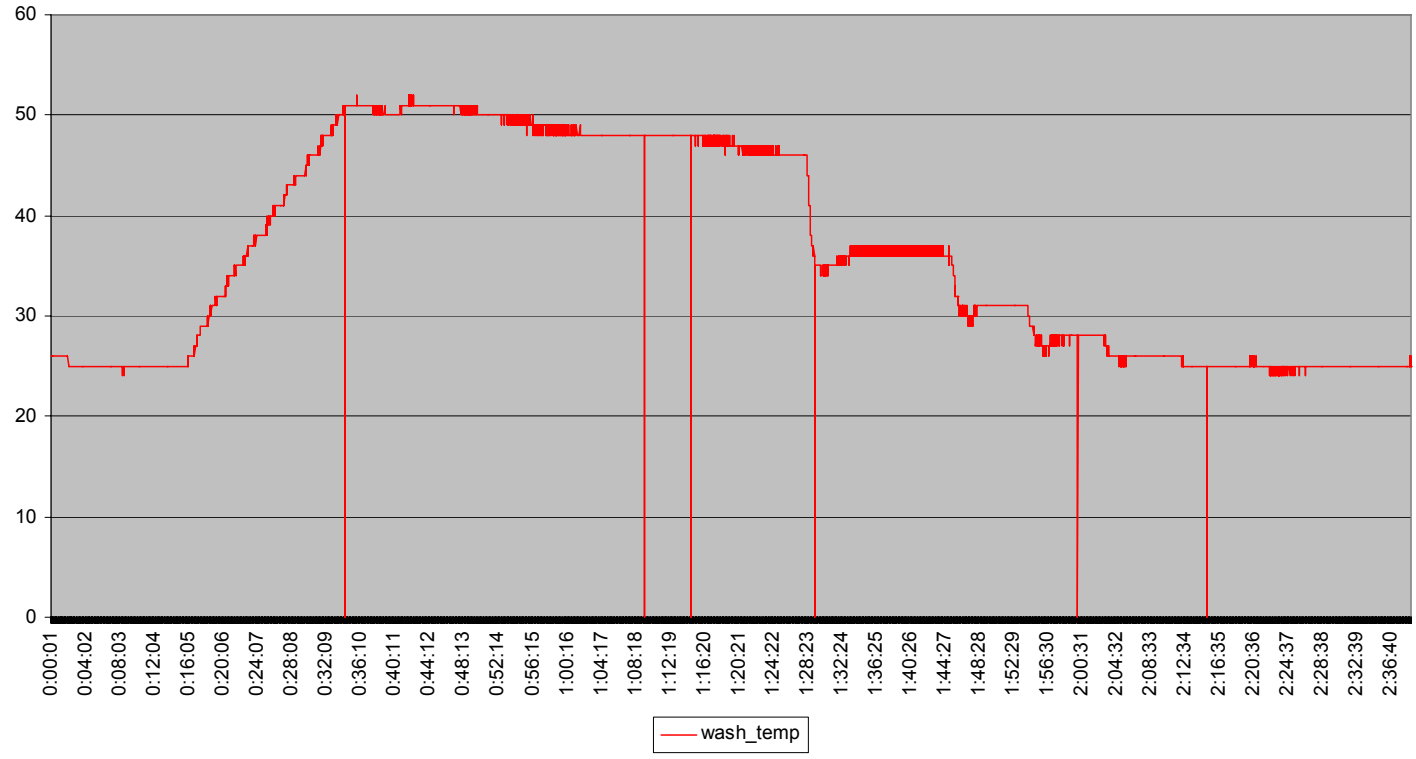




Program cycles

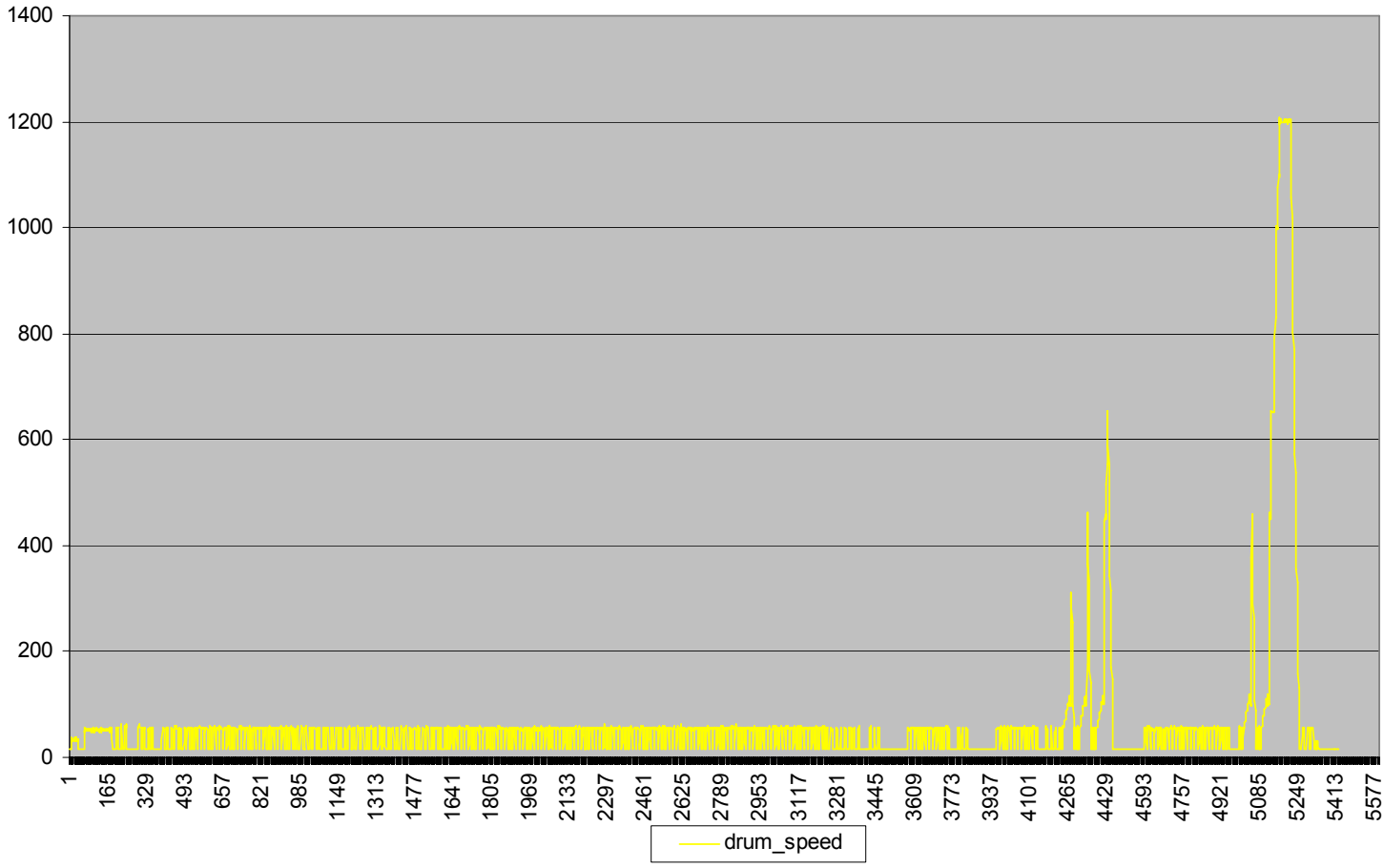
Cotton / coloured 60° ECO + Night cycle Software WAC101..

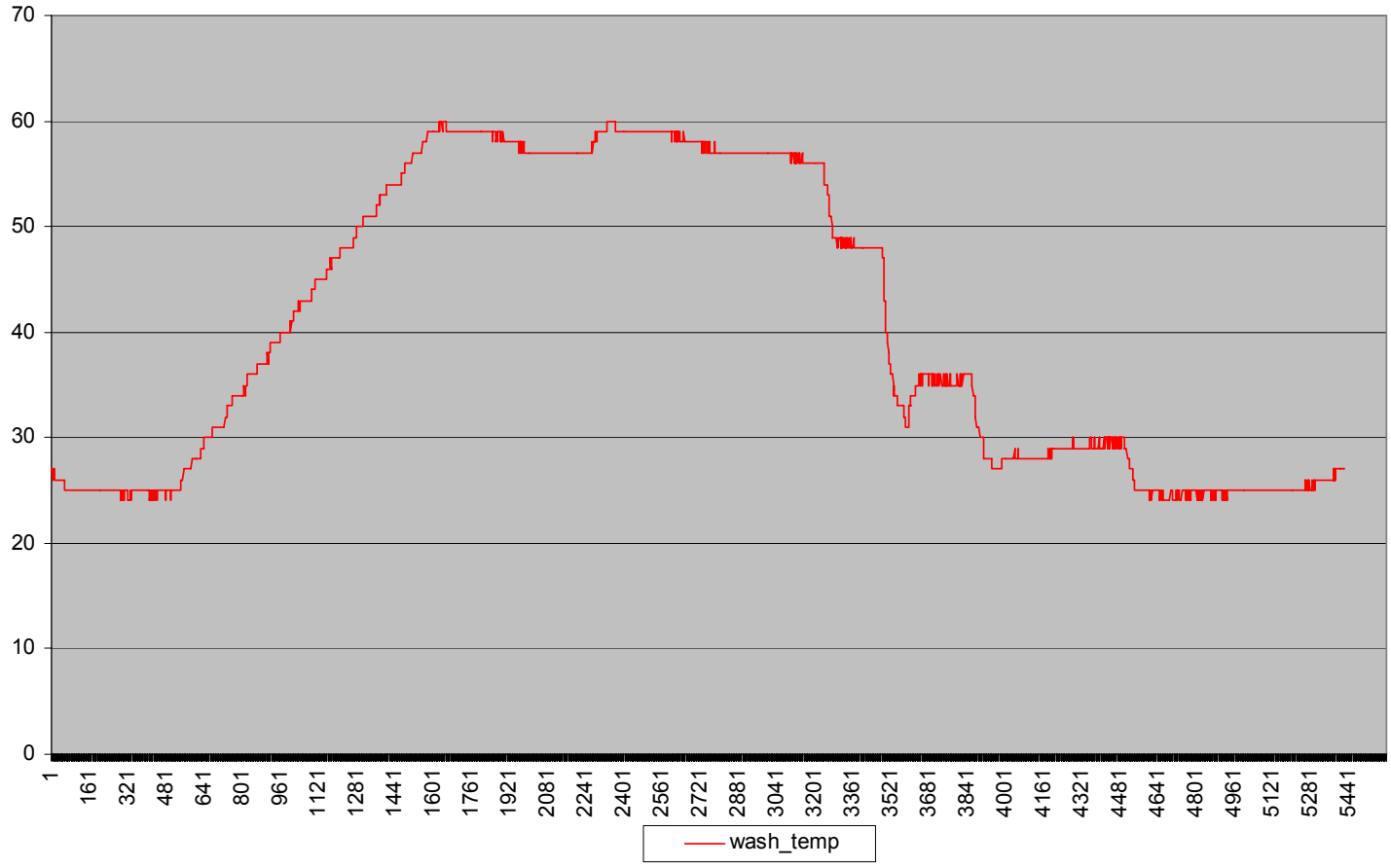




Program cycles

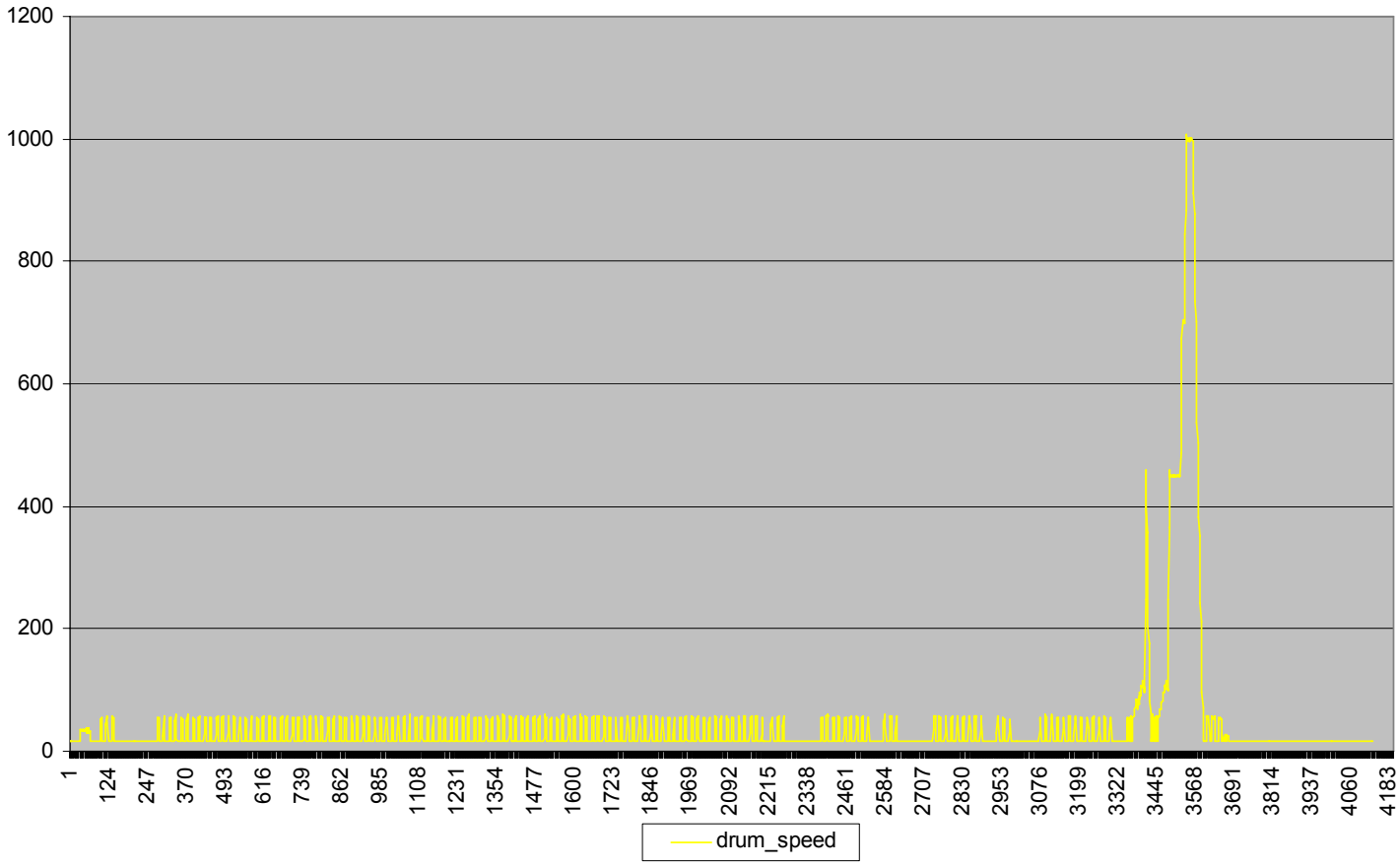
Synthetic 60° (without options) Software WAC101..

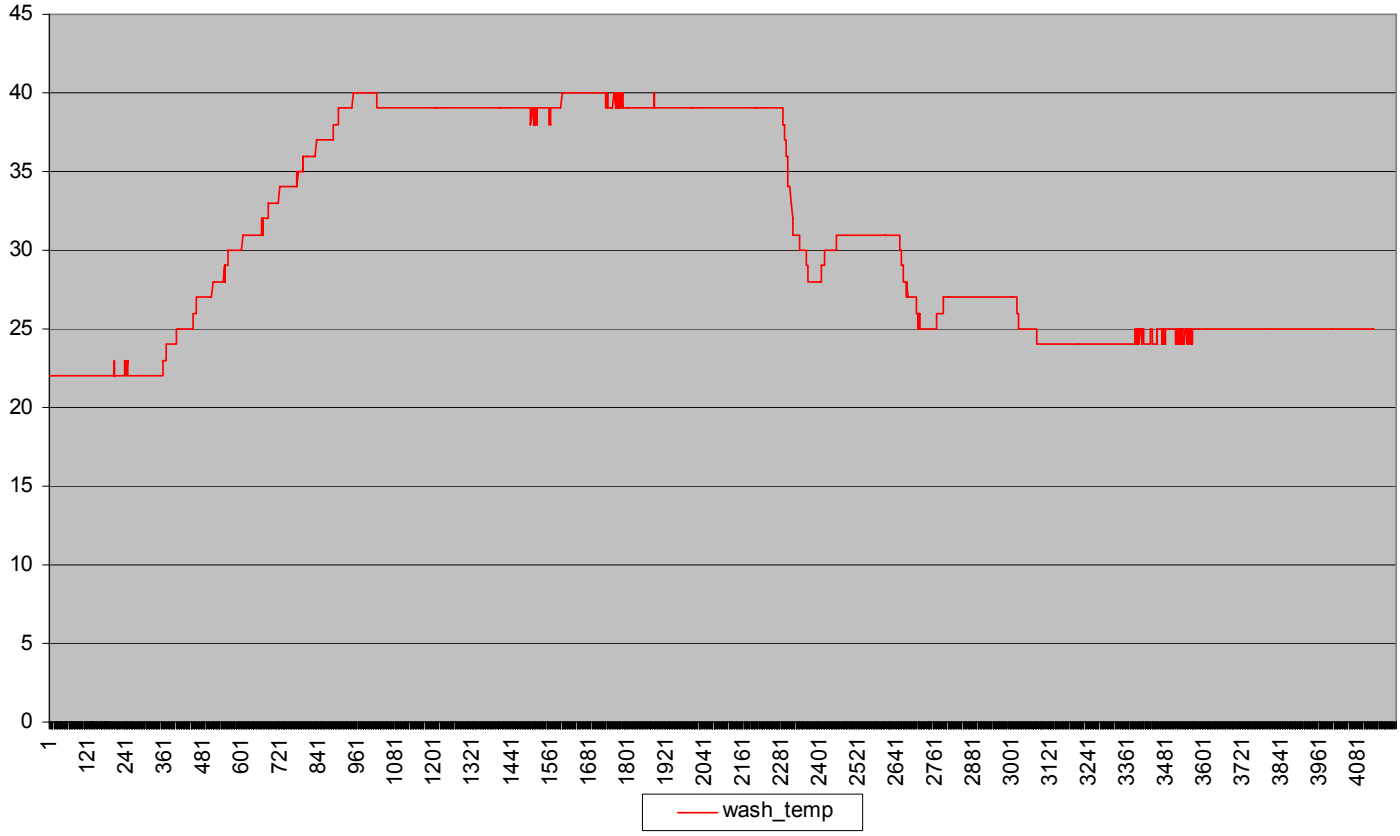




Program cycles

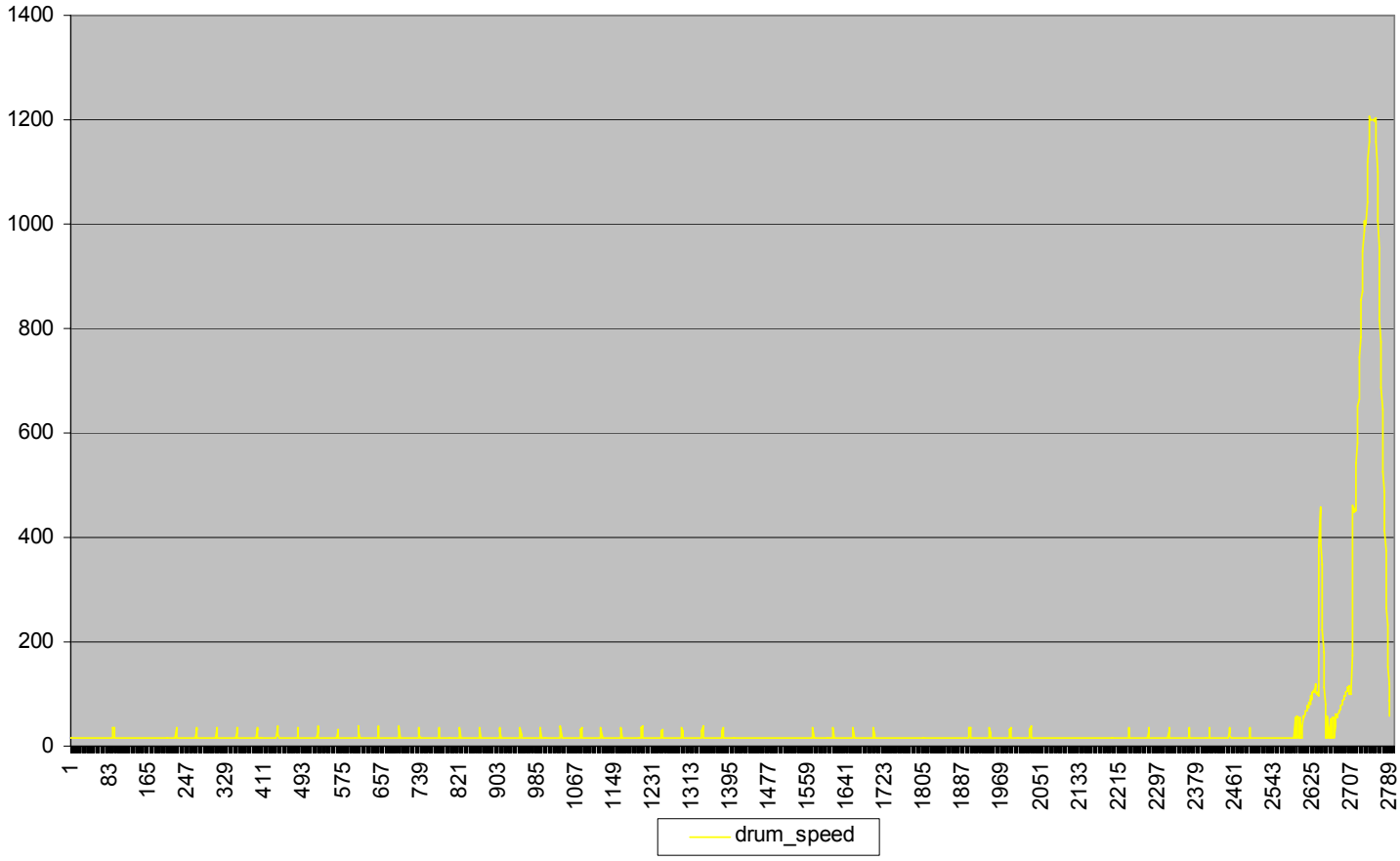
Delicates 40° (without options) Software WAC101..

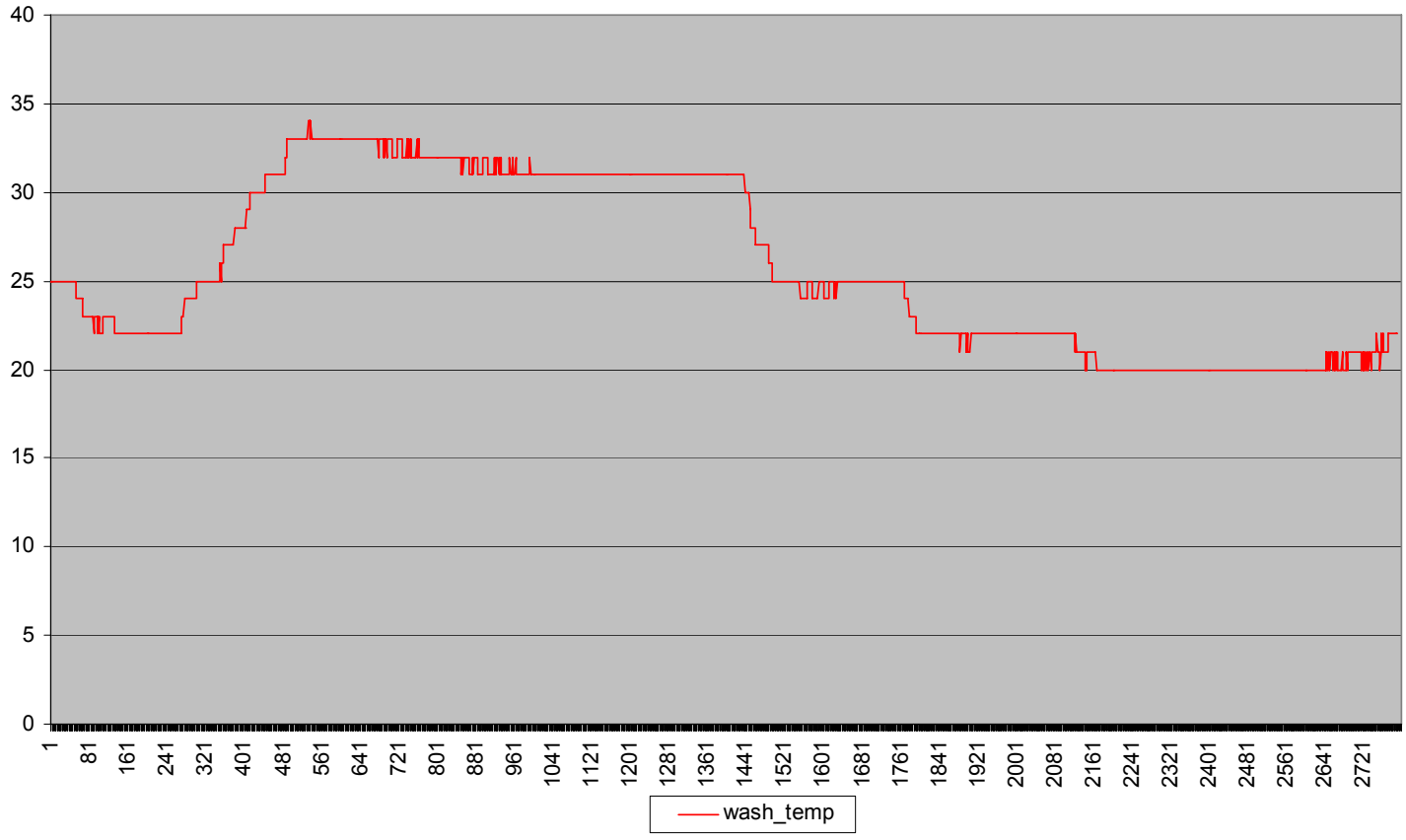




Program cycles

Wool 40° (without options) **Software WAC101..**





Changes

Date	Page changed
18.12.2006	4,5,8,11,14,17,21