



Service-Information

Waschvollautomat Frontlader

AWO 3531

8592 024 29000

Letzte Änderung: 07.06.2008

Anlagedatum: 07.06.2008

Ersatzteilliste	2
Technische Daten	5
Explosionszeichnung	10
Anschlußplan	13
Stromlaufplan	15
Programmablaufplan	17
Text /Legende	24

Die vorliegenden Serviceunterlagen sind ausschließlich für technisch qualifizierte Fachkräfte bestimmt, welche mit den entsprechenden einschlägigen Sicherheitsvorschriften vertraut sind.

Änderungen vorbehalten

Ersatzteilliste

Pos-Nr.	12NC	Beschreibung
001 0	4812 440 10784	Gehaeuse GW
002 0	4812 440 11131	Klappe Filteroeffnung eckig EBL
011 0	4812 462 48421	Fuss verstellb.
021 0	4812 440 11132	Front eckige Klappe EBL
024 0	4812 440 18998	Rueckwand
025 0	4812 404 38737	Traeger Steuerung EBL
030 0	4812 440 11129	Arbeitsplatte EBL
040 0	4812 417 18787	Scharnier
050 0	4812 440 89097	Sockelblende EBL
061 0	4812 466 88458	Gegengewicht oben
061 1	4812 466 88607	Gegengewicht vorn, unten
061 2	4819 310 39227	Montagesatz Gewicht oben
061 3	4819 310 39228	Montagesatz Gewicht unten
081 0	4812 529 18038	Stosssdaempfer bis 1200
084 0	4812 466 58001	Silentblock
086 2	4812 401 18412	Stopfen Stosssdaempfer
110 0	4812 498 18361	Handgriff Tuer EBL
130 0	4812 417 28047	Platte Tuerschloss
130 1	4812 417 28048	Platte Tuerschloß unten
131 0	4812 417 28046	Verschluss Tuer
131 1	4812 417 28045	Stift Tuerverschluss
131 2	4812 492 58022	Feder Tuerverschluss
135 1	4812 498 18262	Knopf
135 2	4812 492 58023	Feder Tuersicherung
135 3	4812 290 68153	Justier-Element Tuersicherung
140 0	4812 450 58981	Schauglas EBL
143 0	4812 440 11141	Fensterrahmen EBL
144 0	4812 440 11139	Rahmen Schaugl. EBL
191 0	4812 466 68729	Manschette BK 48 I
191 1	4812 492 18017	Schelle
191 2	4819 530 58059	Ring
200 1	4812 418 18369	Bottichhaelfte vorn 48 I
200 2	4812 418 18318	Bottichhaelfte CP4/D hinten
200 4	4812 290 88054	Klemme fuer Behaelter
220 0	4812 418 18191	Trommel 1200 0,5MM PP 48L
271 0	4812 358 18056	Keilrippenriem. WH 125
272 0	4812 528 58027	Riemenscheibe DIAM.298
272 3	4812 505 18371	Mutter M 12
292 0	4812 530 58101	Dichtung Behaelter
301 0	4812 452 14567	Schalterleiste AWO 3531
303 0	4812 498 78629	Griff Schublade
331 0	4812 414 58263	Knopf Timer EBL
332 2	4812 513 18146	Drucktaste ohne LED EBL
332 3	4812 513 18145	Drucktaste mit LED EBL
333 0	4812 513 18143	Drucktaste Start EBL
333 1	4812 513 18144	Drucktaste Start Delay EBL
400 0	4812 361 58376	Motor
409 0	4812 362 48004	Kohlebuerste Motor CES
421 0	4812 121 18142	Entstoerfilter 1,00 µF
430 0	4812 310 28144	Laugenpumpe KIT

Pos-Nr.	12NC	Beschreibung
451 0	4812 259 28835	Heizelement 2050W,230V + NTC
480 0	4812 321 78109	Kabel Motor SC1/OM PP/ALPHA/GA
490 0	4819 321 18136	Netzkabel 2m SA
491 0	4812 321 28367	Zugentlastung
491 1	4812 502 38152	Schraube 4,8x19
500 0	4812 282 19349	Timer SC1 programmiert
571 0	4812 271 28375	Magnetventil einfach
581 0	4812 271 28441	Niveauschalter
620 0	4812 239 58024	Modul Timer "B"C/DS
630 0	4812 280 58044	Tuerverriegel.
691 0	4812 282 18702	Sensor NTC (SC1,OMEGA,ACCESS)
701 0	4819 530 28848	Zulaufschlauch
701 1	4819 466 69704	Dichtung und Filter
702 0	4819 530 29019	Schlauch intern
707 0	4812 526 48031	Duese schwenk
707 1	4812 526 48028	Duese Einspuelung
708 1	4812 530 48143	Kruemmer Zulauf
711 0	4812 418 68321	Einspuelbeh. 3 K. EBL
712 0	4812 418 68319	Schublade 3 K. kpl. EBL
713 0	4812 418 89042	Klappe Schublade 3 K. EBL
717 0	4819 321 28092	Bowdenzug
717 1	4812 321 38013	Hebel , Duese
717 2	4812 321 38012	Justier-Element
717 3	4812 278 88018	Gleitstueck
717 4	4812 492 38359	Feder , Duese
717 5	4812 282 18807	Nocken 3 K. SC1/VBL/WH
718 0	4812 526 48051	Saugheber
718 1	4812 418 89041	Trennteil 3 K. EBL
718 2	4812 418 89043	Gitter Schublade 3 K. EBL
753 1	4819 418 68234	Luftkammer
754 0	4812 530 28826	Ablaufbalg
754 1	4812 530 28832	Verschluss eco
754 2	4812 530 28829	Flansch eco
760 0	4812 480 58105	Filter Set Pumpe
781 0	4819 530 28847	Ablaufschlauch
782 0	4812 530 28827	Schlauch Niveauschalter
787 0	4812 530 28813	Schlauch,Entl.
787 2	4819 401 18868	Schlauchschelle 26,8 mm
794 5	4812 530 58098	Dichtung Luftkammer
900 0	4812 255 18204	Halter Ablaufschlauch
900 1	4812 290 88086	Halterung Tuerverriegelung
900 2	4812 290 88077	Kabelfuehrung
900 3	4812 401 18446	Kabelfuehrung
900 4	4819 401 18872	Schlauchschelle Pumpe/Ablauf
900 5	4819 401 18529	Schlauchschelle Bottich unten
900 6	4812 401 18444	Traeger Heizelement
900 7	4812 256 98031	Halter Niveauschalter
900 8	4819 401 18823	Klemme
901 3	4812 401 18414	Schlauchschelle
910 5	4812 502 18516	Schraube 4,2 x 13

Pos-Nr.	12NC	Beschreibung
930 0	4819 492 38139	Feder Aufhaengung
941 0	4812 520 28004	Kugellager 6206
941 1	4812 520 28066	Kugellager 6204
953 0	4812 530 58099	Wellendichtring 1200
961 0	4819 532 68829	Distanzstueck 44, 50, 58 I
965 0	4812 466 68545	Abdeckung BK/WH
993 0	4819 530 29028	Einhaengebogen
993 3	4812 395 58004	Werkzeug

Technische Daten

Abmessungen + Gewicht

Abmessungen Gerät	
Höhe	85 cm
Breite	59.5 cm
Tiefe	60 cm
Gewicht	
Netto	73 kg

Elektrische Basisdaten

Spannung	230 V
Frequenz	50 Hz
Sicherung	10 A
Anschlusswert	2.3 kW

Trommeldaten

Inhalt	48 l
Waschen	54 rpm
Rampendrehzahl	95 rpm
Schleuderdrehzahl	
max.	1200 rpm

Fassungsvermögen (Trockenwäsche)

Baumwolle farbig	5.5 kg
Baumwolle rapid	3 kg
Baumwolle kurz	5.5 kg
Feinwäsche	1.5 kg
Mischwäsche	3 kg
Pflegeleicht	2.5 kg
Pflegeleicht rapid	1.5 kg
Pflegeleicht kurz	2.5 kg
Wolle	1 kg

Niveauschalter

Wasserniveau	
Niveau 1	
Schaltpunkt	60 ± 5 mmWc
Rückschaltpunkt	35 ± 5 mmWc
Überlauf	280 ± 20 mmWc

Wasserstand in der Trommel

(only switching level inside the drum)

Niveau 1	25 mm - 39 mm
Überlauf	267 mm - 306 mm
Nennstrom	
Kontakte	

11 - 12	4 (4)A
11 - 14	16 (4)A
11 - 16	1 (1)A
Kontaktsystem	
11 - 12 - 14	spring contact
11 - 16	sliding contact

Türverriegelung

Verriegelungszeit	(20 °C)
min.	3"
max.	6"
Entriegelungszeit	60"- 90"
Nennspannung	230 V
Nennstrom	
Kontakt	4 - 5 16 (4) A

Heizung

Bauart	Tubular heating element with NTC - sensor
Nennspannung	230 V
Gesamtleistung	2050 W
Widerstand	R25
min.	22 Ω
max.	28 Ω
Widerstand 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

Zulaufventil

Wassertemperatur	
max.	60 °C
Durchflußmenge	< 1 bar 8 l/min
Druckbereich	0.5 bar - 10 bar
Nennspannung	220 V - 240 V
Frequenz	50 Hz
Start Spannung	<6 bar 160
6 - 10 bar	170 V
Nennstrom	35 mA
Nennwiderstand	(20 °C) 3.4 - 4.5
k Ω	

Gesamtleistung 6 VA

Laugenpumpe*(synchronous)*

Nennspannung 230 V
Nennstrom 0.3 A
Gesamtleistung 34 W
Frequenz 50 Hz
Wicklungswiderstand $155 \Omega \pm 7\%$
Motorschutz 170 °C
Nennkapazität 14 ± 2 l/min

*(1.25m height)***Steuerung**

Typ SC1
Elektronik unprogrammiert 4619 710 67646
CB programmiert 4619 744 81631
Nennspannung 230 V
Frequenz 50 Hz
Positionen 32
Anschluss

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

Anschluss

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

Einfach Stecker

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

Umgebungstemperatur	up to 70 °C
Lagertemperatur	up to 85 °C
Waschdrehzahl	54 rpm
Rampendrehzahl	95 rpm
Schleuderdrehzahl	1200 rpm
Widerstand	

(at the selector)

110 rpm	4.7	kΩ
960 rpm	3.6	kΩ
780 rpm	2.7	kΩ
580 rpm	1.8	kΩ
440 rpm	1.1	kΩ
95 rpm	0.68	kΩ
0	0	

TD WITHOUT RESISTOR ON PUSH

Freigabe	1160 rpm
gedrückt	580 rpm
Ausgänge Programmsteuerung	

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

Typ MCA 52/64 - 148 t.f./ WHE 0
 Uebersetzungsverhältnis i = 1:13.3
 Widerstände Anschlüsse

6 - 7	68.70	$\Omega \pm 7\%$
4 - 5	2.15	$\Omega \pm 7\%$
5 - 6	1.46	$\Omega \pm 7\%$
5 - 7	0.65	$\Omega \pm 7\%$

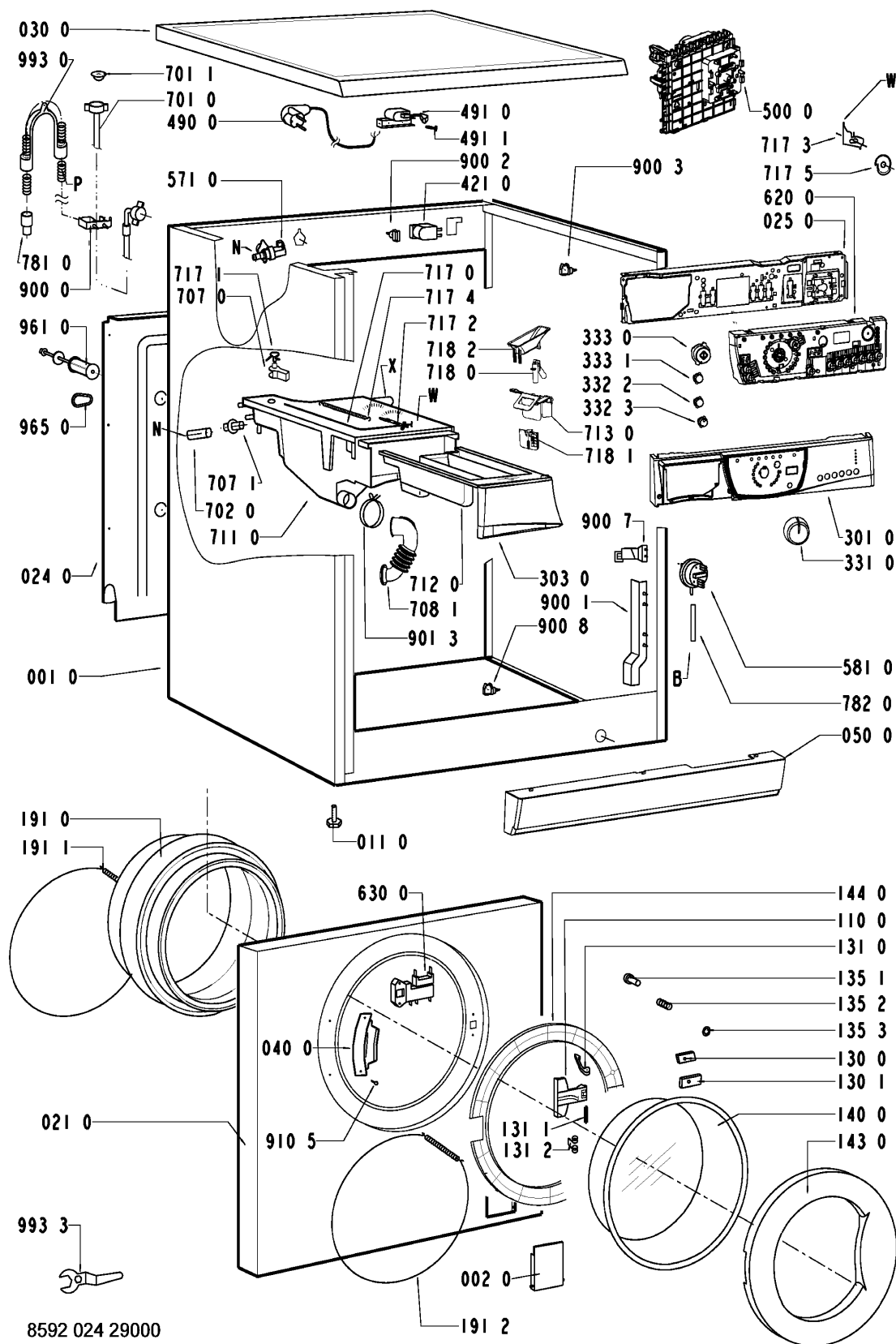
Funkentstörfilter

Typ ISKRA - KPB 7325
 Nennspannung 230 V
 Nennkapazität 250 nF X1 + 2x22 nF Y2 $\pm 20\%$
 Nennwiderstand 1 M $\Omega \pm 5\%$
 Ableitstrom ≥ 4.15 mA (2x2.075 mA) at 250V 50Hz

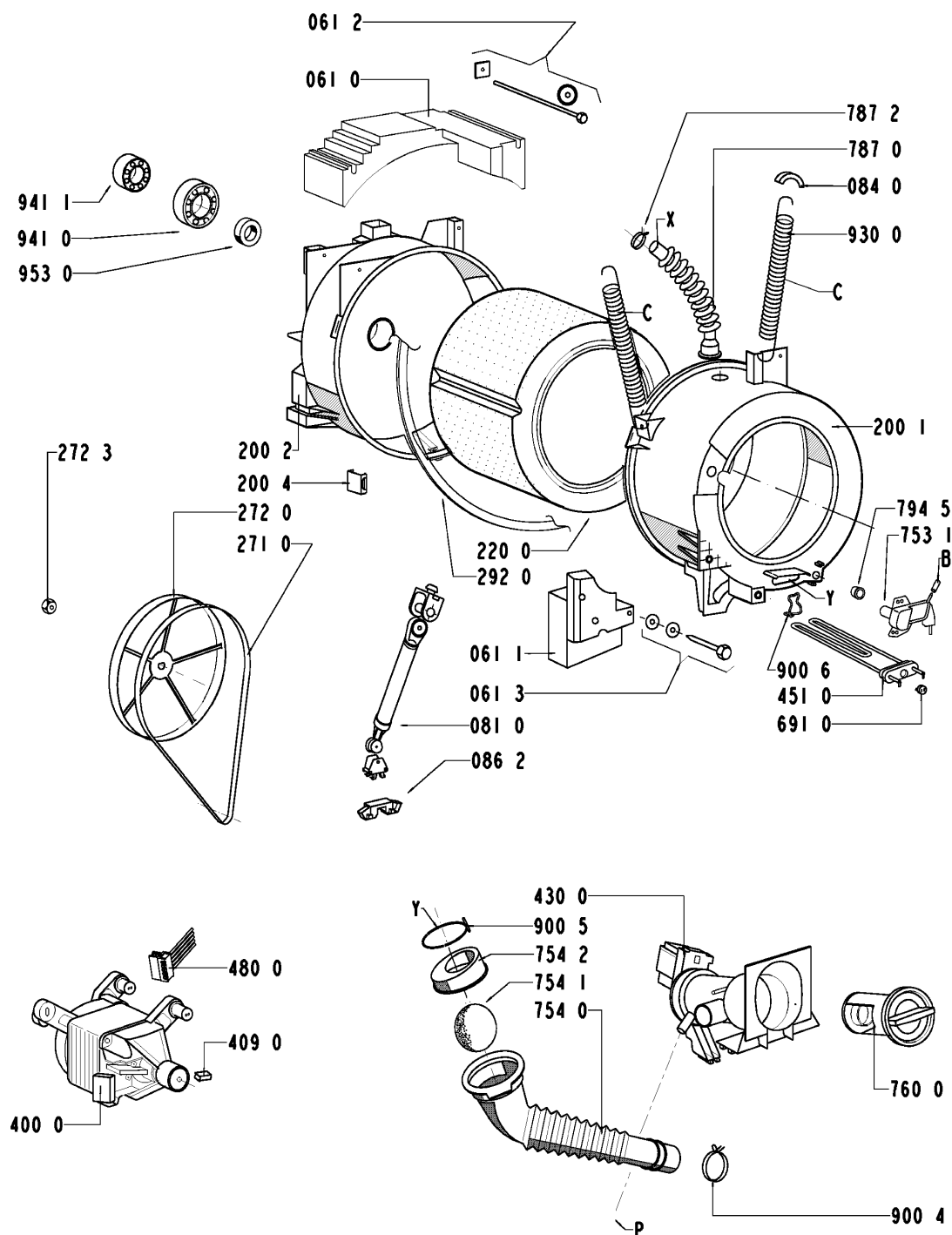
Drucktastenschalter

Schalter Start SST
 Schalter start Vorwahl STD
 reduziertes Schleudern SSR
 Schalter Spülstop SRS
 Schalter intensiv Spülen SRI
 Schalter Vorwäsche SPW
 Schalter leicht Bügeln SEI
 Schalter reset
 Restzeitanzeige

Explosionszeichnung

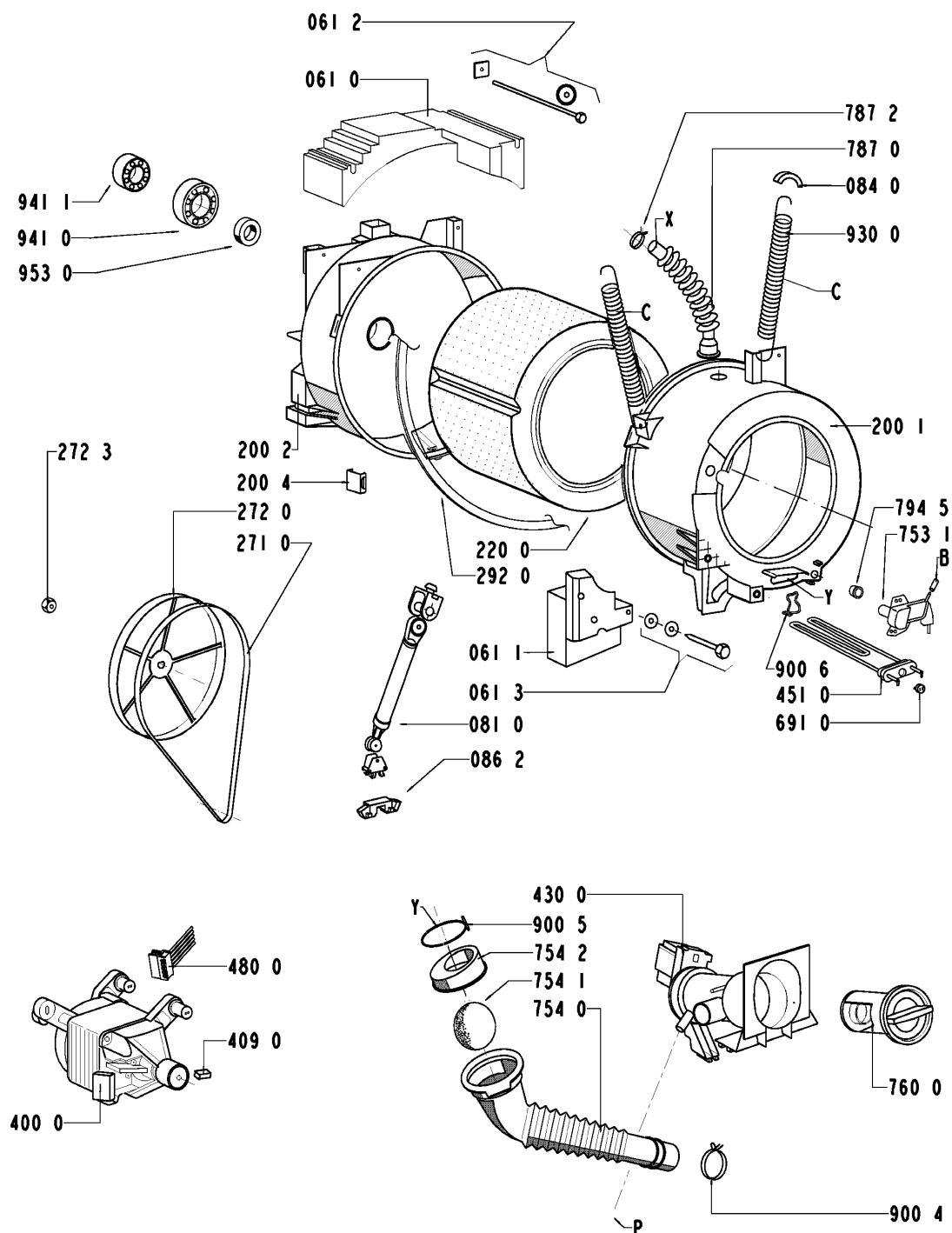


Explosionszeichnung



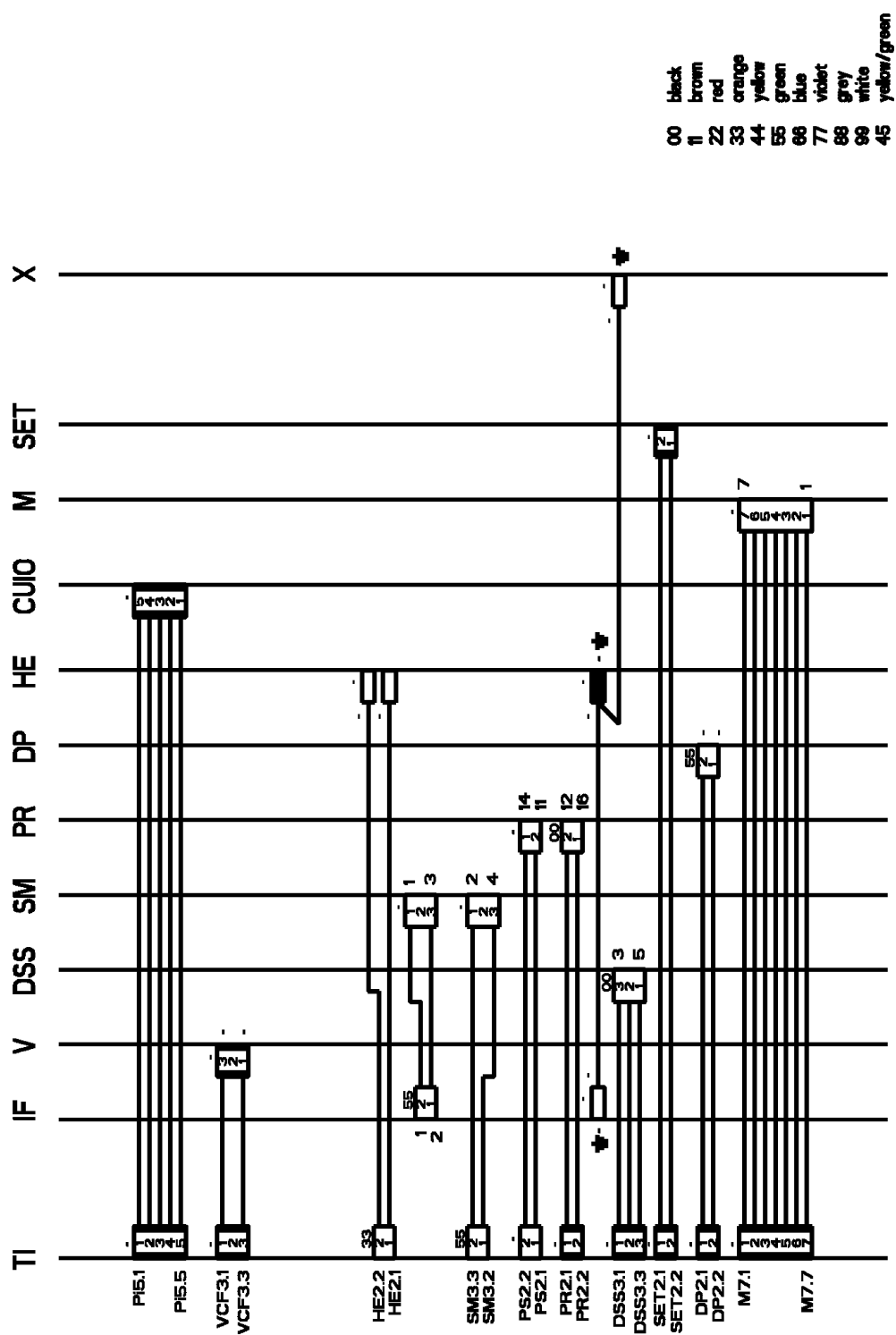
8592 024 29000

Explosionszeichnung



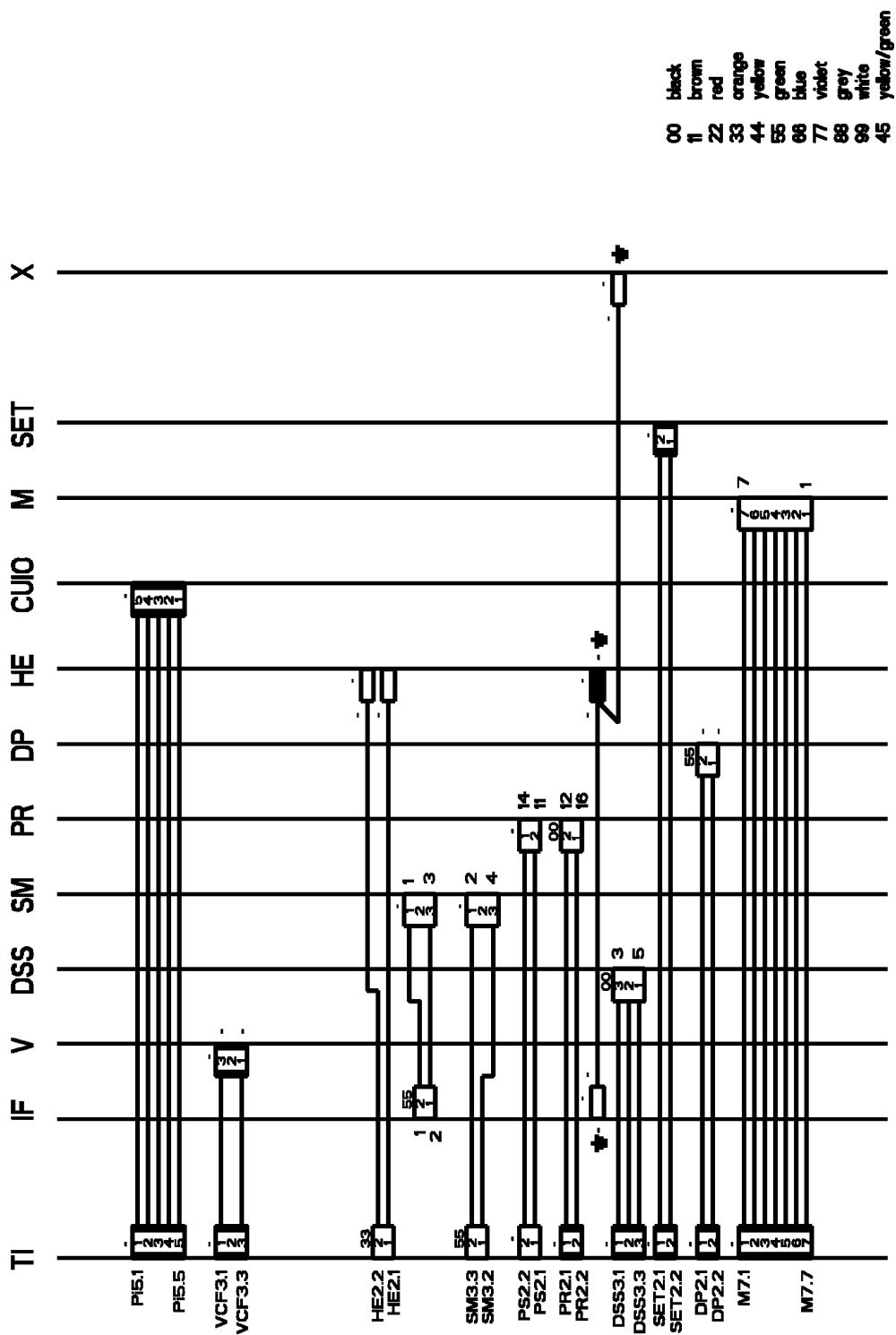
8592 024 29000

Anschlußplan



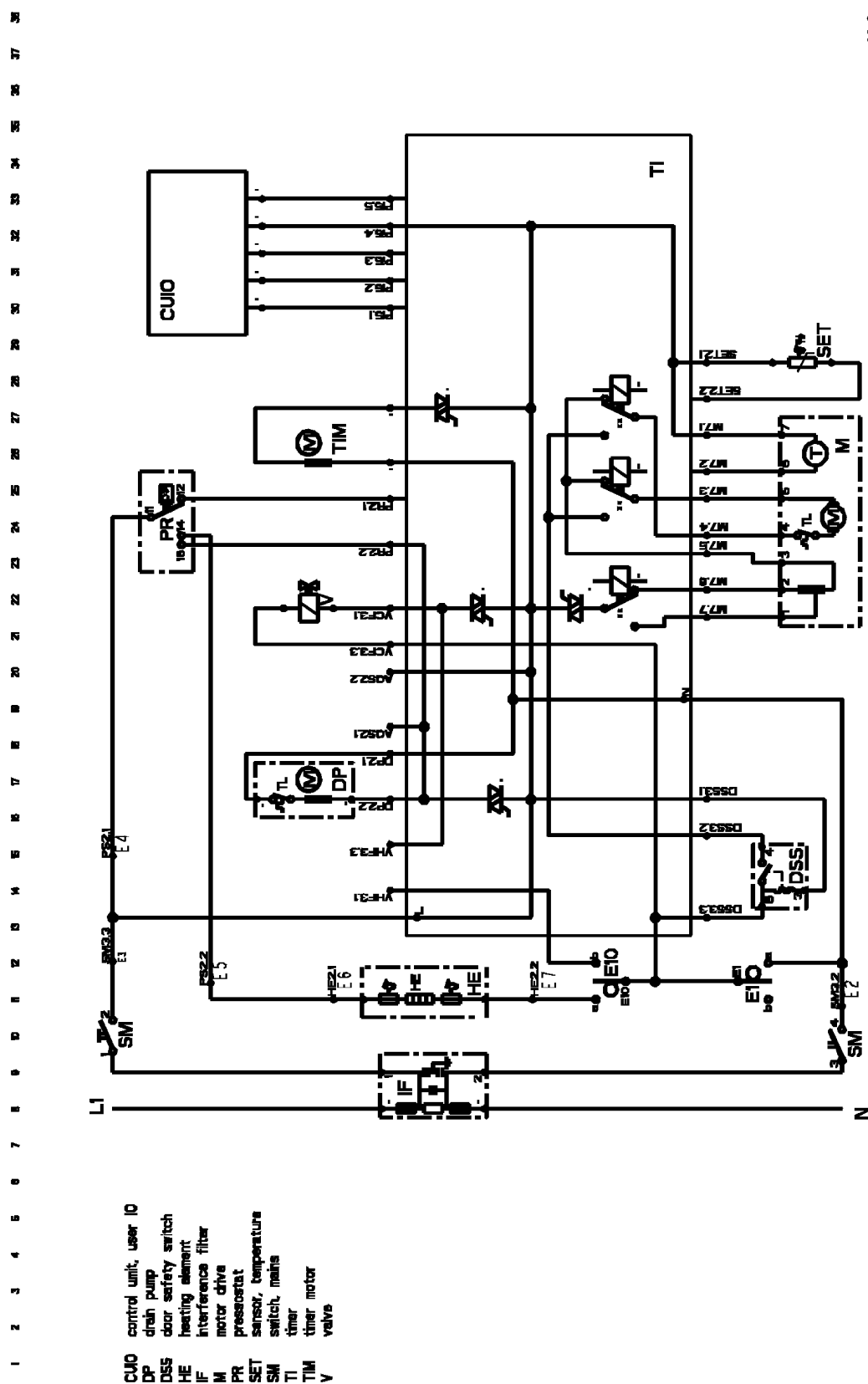
4619 744 43101

Anschlußplan

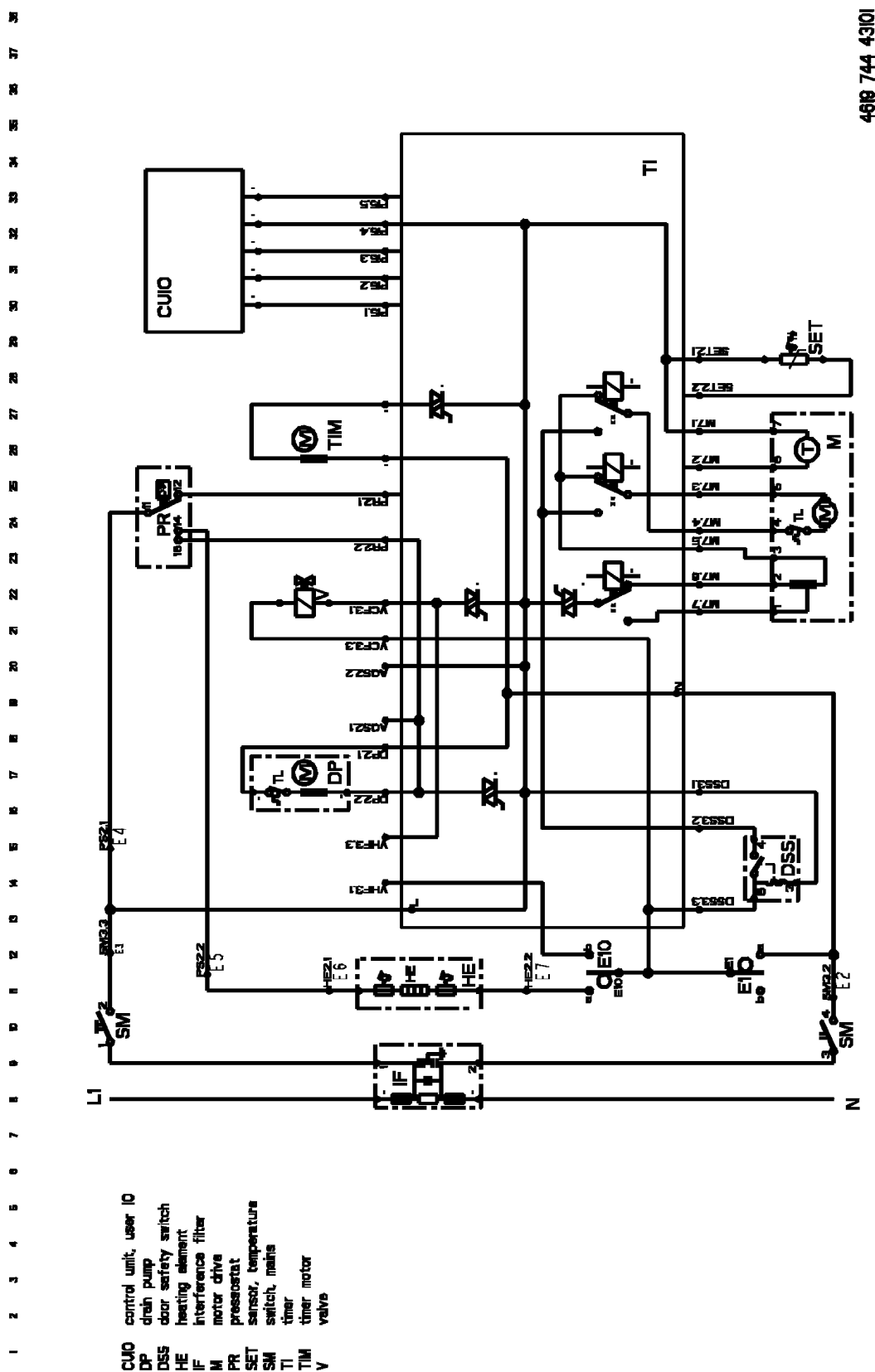


4619 744 43101

Stromlaufplan



Stromlaufplan



Programmablaufplan

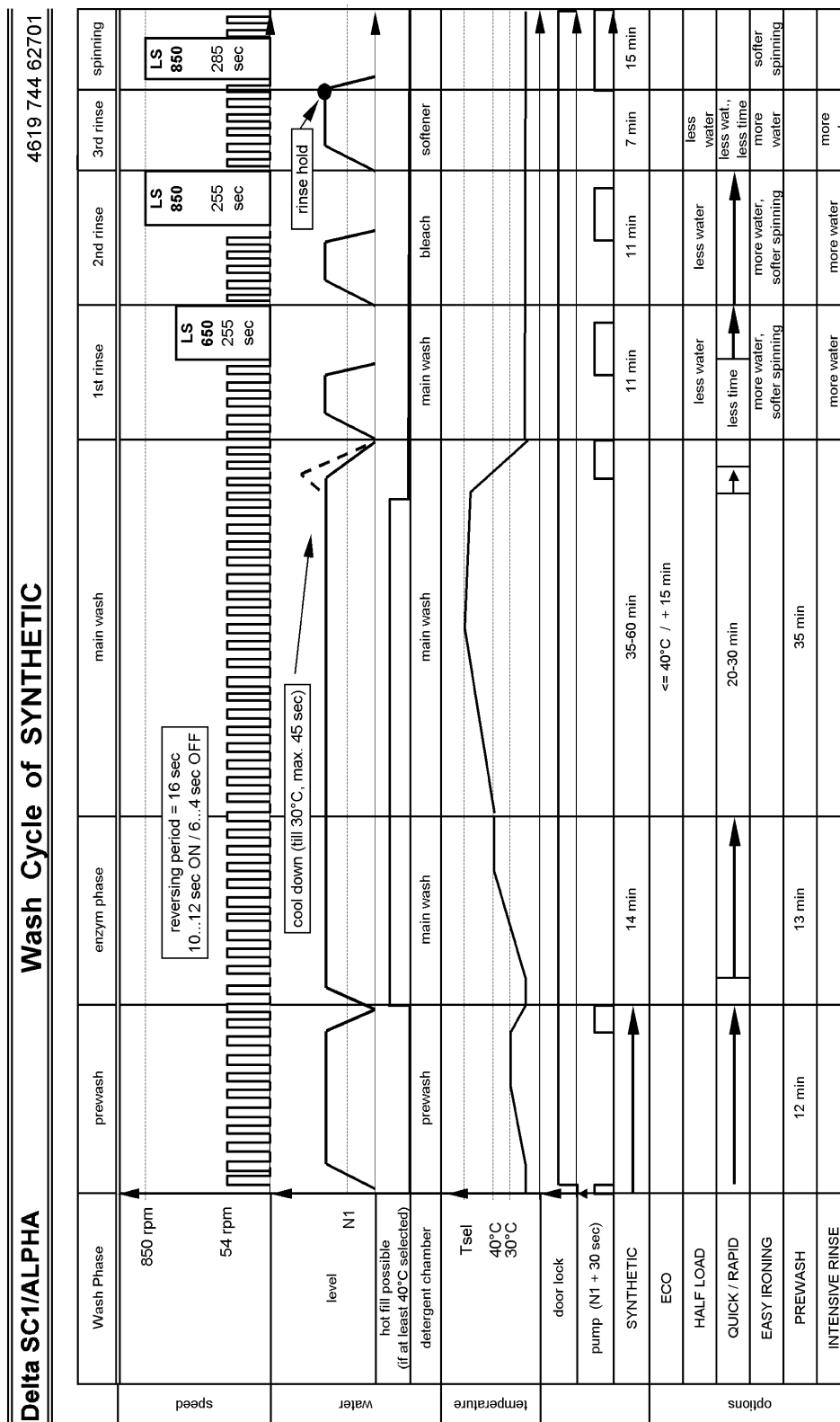
Delta SC1/ALPHA				Wash Cycle of COTTON				4619 744 62701			
Wash Phase	prevwash	enzym phase	main wash	1st rinse (not for small and medium load of Load Detection)	2nd rinse (twice, if Intensive Rinse selected + Load Detection used)	3rd rinse	spinning				
max. 850 rpm											
54 rpm											
level											
hot fill possible (if at least 40°C selected)											
detergent chamber											
Tsel 40°C 30°C											
door lock											
pump (N1 + 30 sec)											
normal program flow + large load of Load Detect.											
only for medium load of Load Detection											
only for small load of Load Detection											
ECO											
HALF LOAD											
QUICK / RAPID											
EASY / IRONING											
PREWASH											
INTENSIVE RINSE											

Programmablaufplan

Delta SC1/ALPHA		Wash Cycle of CHRONO/DAILY						
	Wash Phase	enzym phase	main wash	1st rinse	2nd rinse	3rd rinse	spinning	
speed	max. 850 rpm							
	54 rpm	reversing period = 16 sec 10...12 sec ON / 6...4 sec OFF		LS 650 130 sec	LS 850 130 sec LS 850 255 sec ES 230 sec			
water	level N1				rinse hold			
	hot fill possible (if at least 40°C selected) detergent chamber	main wash	main wash	main wash	bleach	softener		
temperature	60°C 40°C 30°C							
	door lock pump (N1 + 30 sec)							
options	normal program flow	10 - 11 min	17 - 20 min	6 min	6 min	4 - 5 min	10 - 11 min	
	EASY IRONING			more water, softer spinning more water, more time	more water, softer spinning more water, more time	more water, softer spinning more water, more time	softer spinning	
	INTENSIVE RINSE							

4619 744 62701

Programmablaufplan



Programmablaufplan

Delta SC1/ALPHA			Wash Cycle of DELICATE							4819 744 62701		
Wash Phase	prewash	enzym phase	main wash	1st rinse	2nd rinse	3rd rinse	spinning					
850 rpm		reversing period = 16 sec mainly 10 sec ON / 6 sec OFF partly 2.5 sec ON / 13.5 sec OFF										
54 rpm												
level												
hot fill possible (if at least 40°C selected)												
detergent chamber	prewash	main wash	main wash	main wash	bleach	softener						
40°C 30°C												
door lock												
pump (N1 + 30 sec)												
DELICATE		9 min	13 min	5 min	5 min	4 min	4 min					
PREWASH	11 min											

Programmablaufplan

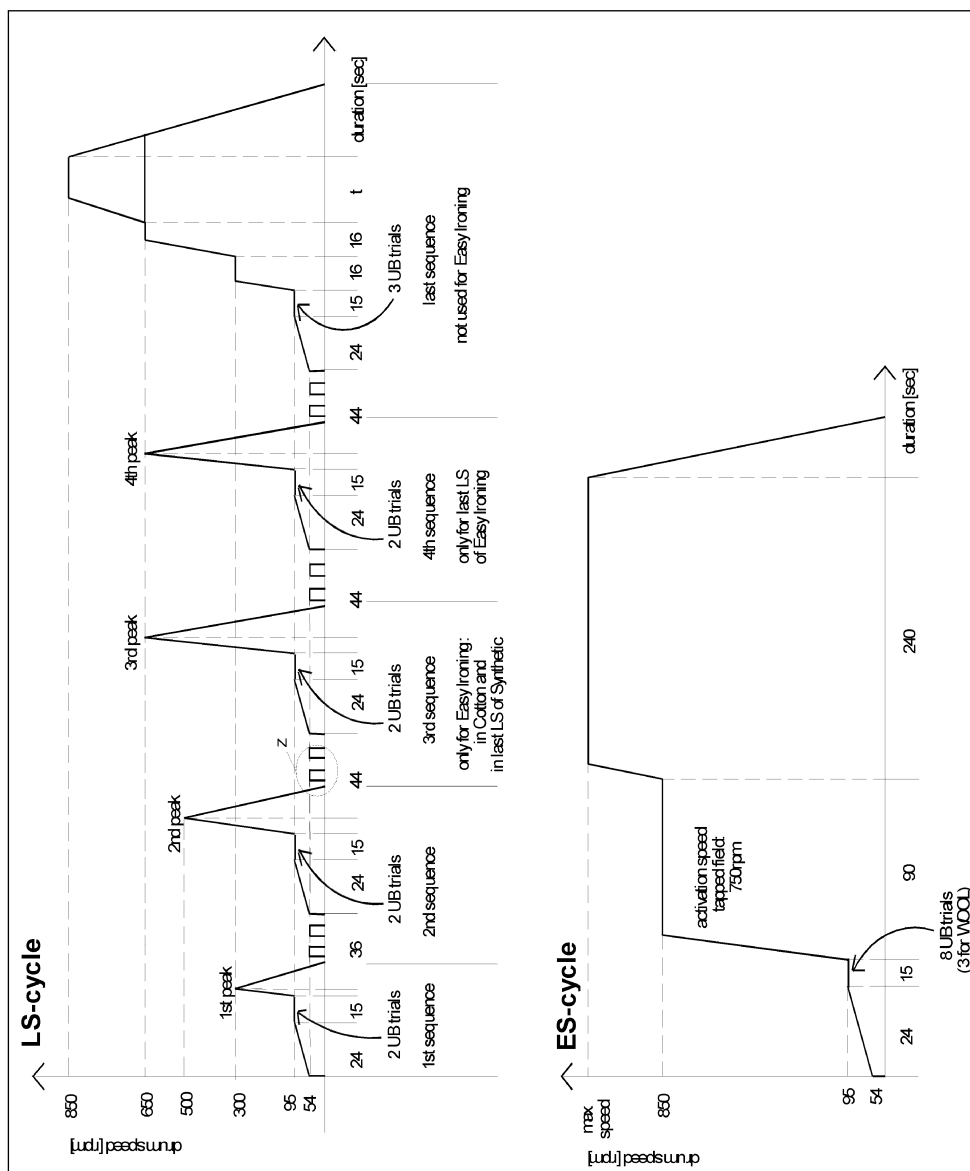
Delta SC1/ALPHA Wash Cycles of WOOL, SILK and HANDWASH						
Wash Phase	main wash	1st rinse	2nd rinse	3rd rinse	spinning	
850 rpm	reversing period = 16 / 32 sec WOOL/SILK mainly 2.5 sec ON / 13.5 sec OFF HANDWASH 1.5 sec ON / 62.5 sec OFF					
42 rpm	ES 115 sec					for HANDWASH: only 400 rpm possible for SILK: no spinning
level	rinse hold					
hot fill possible (only for WOOL 40°C, not for SILK)						
detergent chamber	main wash main wash bleach softener					
temperature	T max: WOOL: 40°C SILK, HANDWASH: 30°C					
door lock						
pump (N1 + 30 sec)						
WOOL	18 min	5 min	5 min	4 min	4 min	
SILK	25 min	5 min	5 min	4 min	4 min	
HANDWASH	23 min	5 min	5 min	4 min	4 min	

Programmablaufplan

Delta SC1/ALPHA

Spinning Profiles

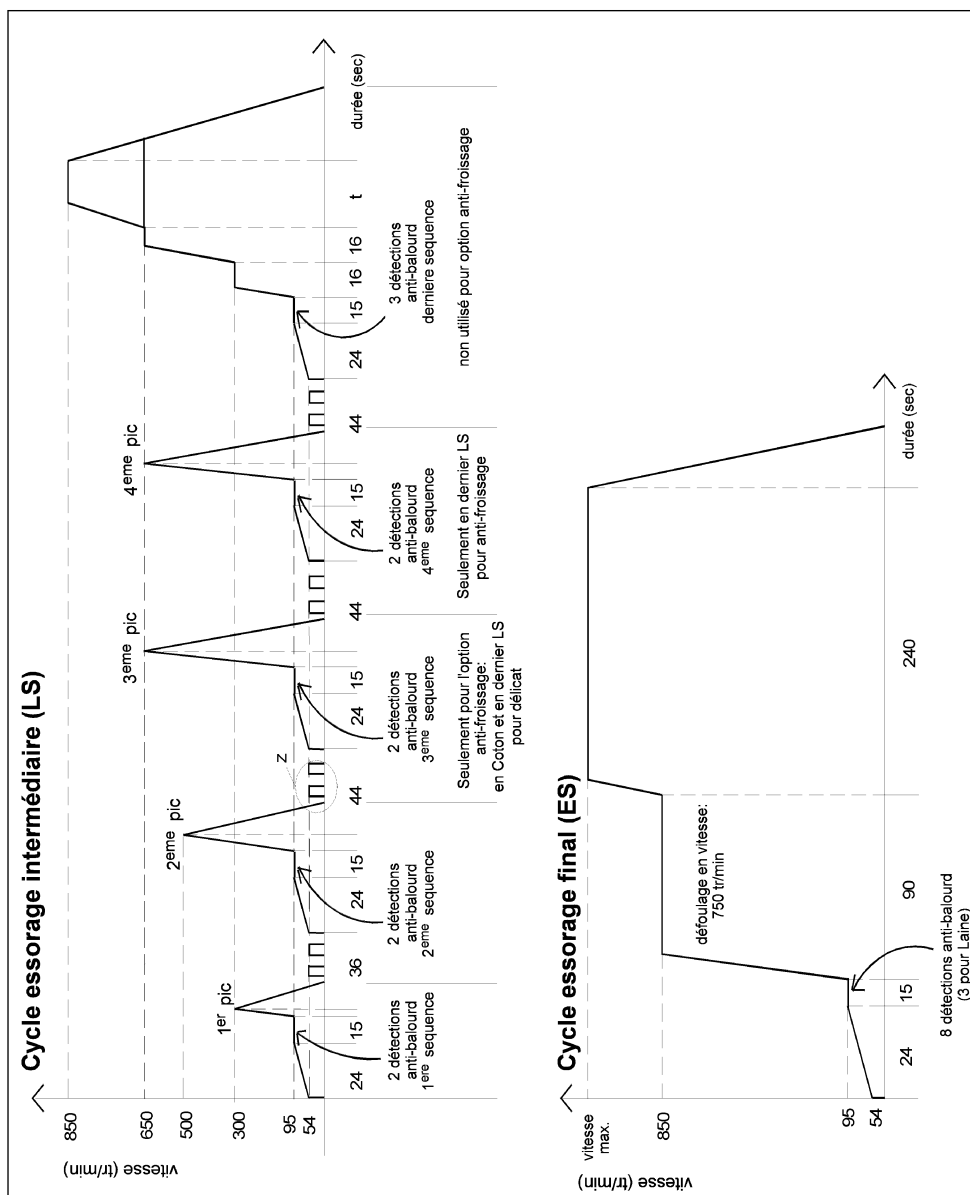
4619 744 62701



Programmablaufplan

Delta SC1

PROFIL TYPE DE L'ESSORAGE



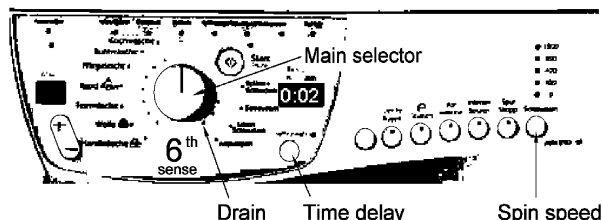
Text /Legende

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

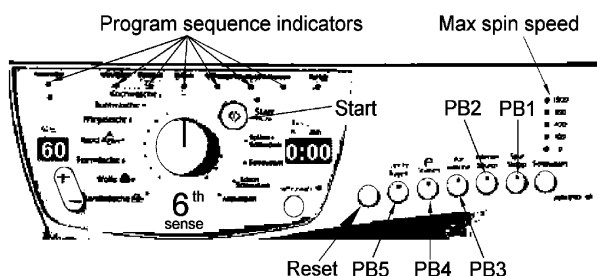


3. **Start of test program :**

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

Indication of entering the test program:

- temperature display = 60°C
- start delay LED = ON
- speed LED max = ON
- LED of PB1 and PB2 = ON
- if available:
- LED aquastop = ON
- LED water tap = ON
- LED pump filter = ON
- LED door lock = ON



during the hole testprocedure until Reset is pushed.

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	Pre-wash	Main-wash	Rinse	Rinse hold	Spin-ning	Detergent box	Inlet / Outlet	Max temp.	Duration (" = sec (' = min)	Movement of drum	Advance condition	Advance by option button (Press slowly 2 times)	Checking
-	X	X	X	X	X	-				no movement	↓	PB3	PB1, PB2
6	X	X	X	X	X	pre wash	fill		60"	no movement		PB3	PB3
8						main wash	(hot) fill	hot fill	60"	no movement		PB4 **, PB1	PB4, mainwash fill, hot fill N1
16		X	X	X	X		fill		6'	gentle wash	N1		
18							fill			gentle wash	60"	PB1	
20							(fill)	90°C	55'	gentle wash	till 90°C - time unknown	PB1	heating, NTC leakage
23			X	X	X	bleach *				turns right	3"		
27						softener	fill			turns left	60"	PB5 ** or PB1	PB5, bleach fill
28				X	X	-	pump		6'	gentle wash	N1	PB1	softener fill
29					X	-	pump			0 - 95 rpm	4", N1		pump
						-	pump			select. Speed	300", N1	PB1	motor - spinning
5						-				no movement	∞		

** if PB4 / PB5 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
- Start is flashing

4619 712 54471-EBL

Text /Legende

Table of failures:

Failure Identifier	Indication	Detected failure	To be checked
0	F00	Pump triac failure	Control unit
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	F19	Mains power failure	Power
20	F20	Control failure	Control unit
21	F21	Control failure	Control unit

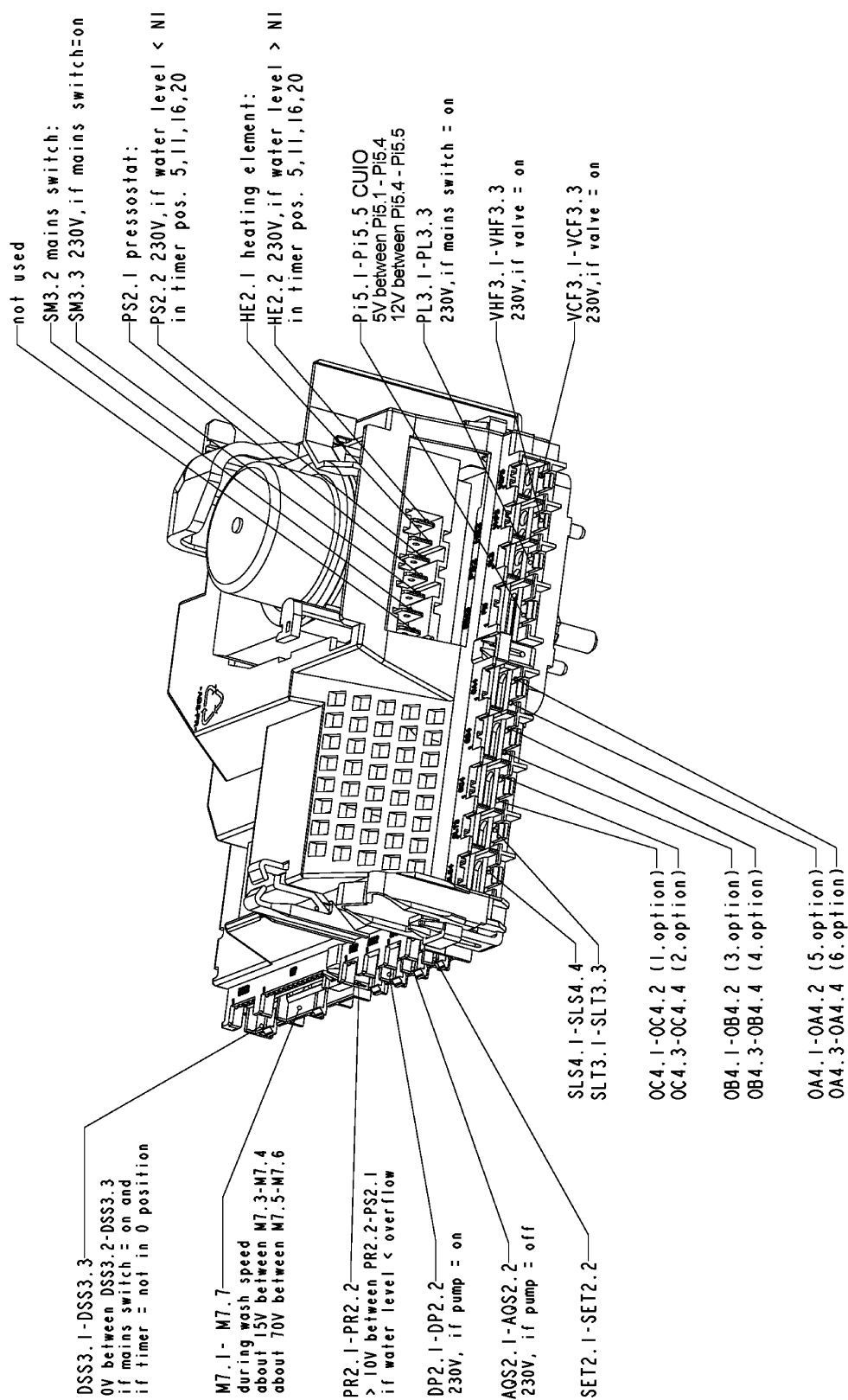
Display of failures on the speed leds (flashing):

Errors	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	F:00	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	●	○	●	●	●	●
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

4619 712 54471-EBL

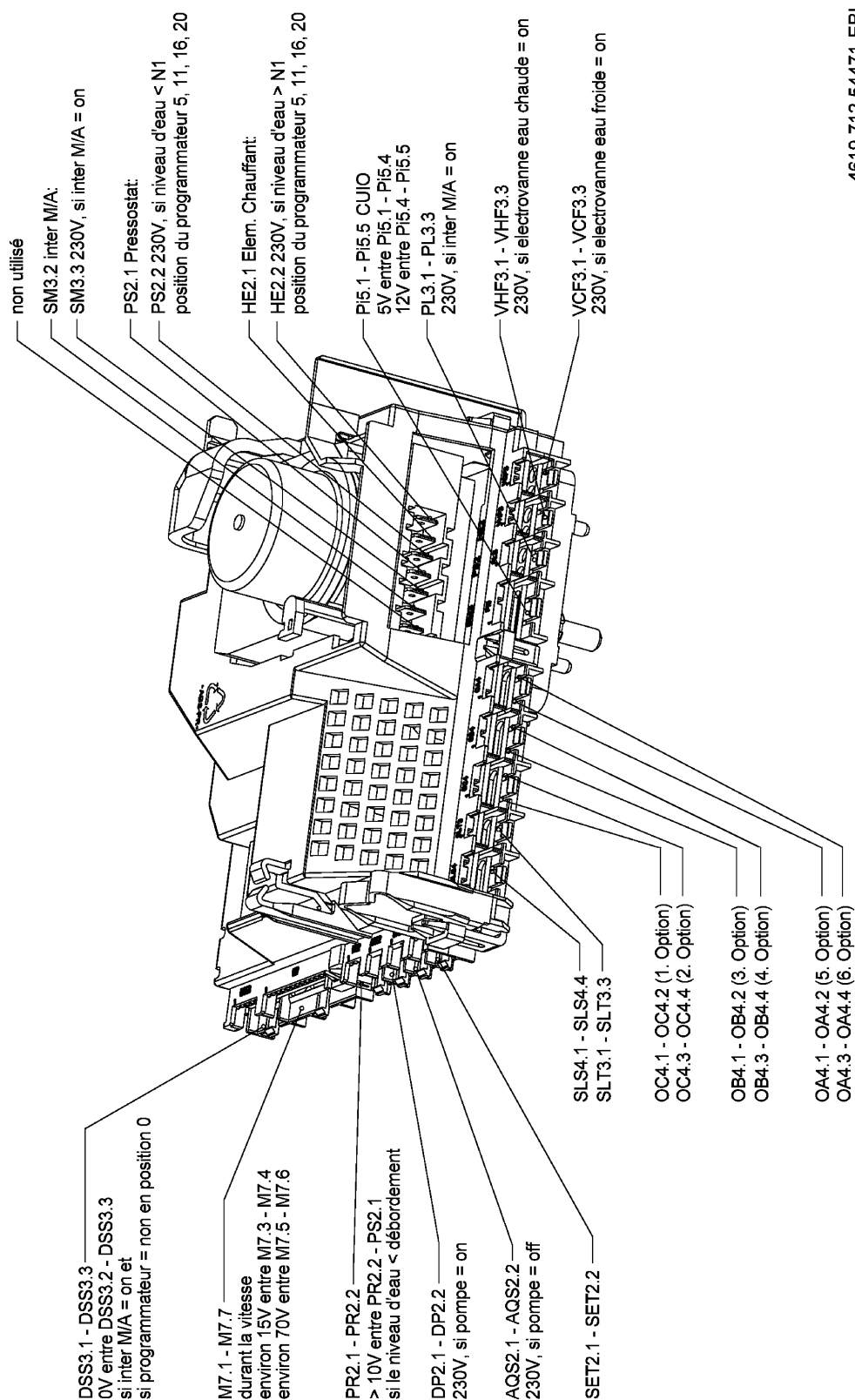
Text /Legende



4619 712 54471-EBL

Text /Legende

Programmateur SC1 - Version A et B



4619 712 54471-EBL