



Service Manual

Washing machine

Toploader

AWT 5109

| Model Version | | Page |
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| | 8561 510 10090 | |
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| | Family | ALPHA |

Technical data**Dimensions**

| | | |
|--------|----|----|
| Height | 85 | cm |
| Width | 40 | cm |
| Depth | 60 | cm |

Weight

| | | |
|--------------|-----|----|
| Net weight | ~63 | kg |
| With package | ~66 | kg |

Main Connection

| | | |
|-------------------|------|---------|
| Voltage | 230 | V ± 10% |
| Frequency | 50 | Hz |
| Power consumption | ~2.3 | kW |
| Fuse rating | 10 | A |

Drum

| | | |
|---------------------|------|-----|
| Volume | 42 | l |
| Wash spin | 52 | rpm |
| Ramp speed | 95 | rpm |
| Speed spinning max. | 1000 | rpm |

Capacity of dry laundry

| | | |
|-----------------|-----|----|
| Cotton | 5 | kg |
| Cotton short | 3 | kg |
| Synthetics | 2 | kg |
| Daily mixed | 3 | kg |
| Easy care short | 1.5 | kg |
| Delicate | 1.5 | kg |
| Wool | 1 | kg |
| Handwash/Silk | 1 | kg |

Pressostat

| | | |
|-----------------|----------------------|---|
| Kind of switch | 1-level pressoswitch | |
| Type | 760 | |
| Nominal voltage | 230 | V |

Water Level

| | | |
|---------------------------|----------|------|
| Level 1 (11 - 12, 14) | | |
| Switching point | 65 ± 5 | mmWc |
| Switching back point | 40 ± 5 | mmWc |
| Overflow (11 - 16) | 300 ± 20 | mmWc |
| Water level based to drum | 60 ± 10 | mm |

Nominal currents

| | | |
|----------|---------|----|
| Contacts | | |
| 11 - 12 | 0.5 - 1 | mA |
| 11 - 14 | 16 (4) | A |
| 11 - 16 | 1 (1) | A |

Door lock

| | | |
|------------------|--------|---|
| Type | BP P/5 | |
| Nominal voltage | 230 | V |
| Nominal current: | | |
| Contact 4 - 5 | 16 (4) | A |
| Lock time | ≤5" | |
| Unlock time | ≤180" | |

Heating element

| | | |
|--------------------------------------|---|--------|
| Kind of heating | Tubular heating element with NTC - sensor | |
| Nominal voltage | 230 +10%, -15% V | |
| Nominal power | 2050 | W ± 5% |
| Resistance (20 °C) | 23.9 | Ω ± 5% |
| Thermo-fuse (switch OFF temperature) | 152 | °C |
| Leakage current (<99 °C) | <0.8 | mA |

NTC sensor

| | | |
|---------------------|------|-----------|
| Class of protection | II | |
| Resistance NTC: | | |
| 0 °C | 35.9 | kΩ ± 5.8% |
| 30 °C | 9.8 | kΩ ± 3.7% |
| 40 °C | 6.6 | kΩ ± 3.1% |
| 50 °C | 4.6 | kΩ ± 2.6% |
| 60 °C | 3.2 | kΩ ± 2.0% |
| 70 °C | 2.3 | kΩ ± 2.5% |
| 95 °C | 1.1 | kΩ ± 3.7% |

Inlet valve

| | | |
|--------------------|----------------------------|-------------|
| Kind of valve | 1-way valve for cold water | |
| Water temperature | <60 | °C |
| Rated flow >1 bar | 8 | l/min ± 10% |
| Pressure range | 0,2 - 10 | bar |
| Nominal current | 40 | mA |
| Nominal power | 8.8 | VA ± 10% |
| Nominal resistance | 3.8 | kΩ ± 10% |

Drain pump (synchronous)

| | | |
|----------------------------------|---------|--------|
| Type | 58578 | |
| Nominal voltage | 230 | V |
| Nominal/max. current | 0.3/0.5 | A |
| Nominal power | 34 | W |
| Rotation speed | 3000 | rpm |
| Frequency | 50 | Hz |
| Resistor (coil) (20 °C) | 162 | Ω |
| Capacity (0.55 - 1.0 m) | 14 ± 2 | l/min |
| Position of draining hose outlet | min. | 0.55 m |
| | max. | 1.0 m |

Technical data

Timer

| | | |
|------------------|----------------|-----------|
| Type | ALPHA 31670006 | |
| Timer basic | 4619 730 70961 | |
| Timer programmed | 4619 751 51291 | |
| Nominal voltage | 230 | V |
| Frequency | 50 | Hz |
| Program | 32 | positions |

Motor

| | | |
|------------|---------------------------|--|
| Type | MCA 45/64 - 148/ ALB 1 | |
| Belt ratio | i = 1:15.9 | |

Resistance contacts (20 °C)

| | | |
|---------------------|-------|------------------|
| Stator (full field) | 1.80 | $\Omega \pm 7\%$ |
| Rotor | 2.00 | $\Omega \pm 7\%$ |
| Tachogenerator | 67.80 | $\Omega \pm 7\%$ |

Input power (230 V AC)

| | | |
|----------|-----|--------------|
| Washing | 210 | W $\pm 7\%$ |
| Rinsing | 305 | W $\pm 7\%$ |
| Spinning | 340 | W $\pm 10\%$ |

Radio interference supression

| | | |
|--------------------------------------|---|--------------------|
| Rated voltage | 90 - 250 | V |
| Rated current | 16 | A |
| Frequency | 50/60 | Hz |
| Nominal capacity | 470 nF X1 +2 x 22 nF Y | $\pm 20\%$ |
| Nominal inductance | 2 x 470 | $\mu H -30+50\%$ |
| Nominal resistance | 680 | $k\Omega \pm 10\%$ |
| Derivation current (u = 250 V AC) | $\leq 4.15 (2 \times 2.075) \text{ mA}$ | |

Main switch

| | | |
|----------------------|-----------------|------|
| Type | 1DLF1006 | |
| Nominal voltage | 250 | V |
| Nominal current | 16 (5) | A |
| Poles | 2 | |
| Functionality | Normally opened | |
| Connection in RAST 5 | 6.3 | pins |
| Connection lamp | 2.8 | pins |

Pilot lamp

| | | |
|-----------------|-----|---|
| Nominal voltage | 230 | V |
|-----------------|-----|---|

Option switch

| | | |
|-----------------|-----------------|------|
| Nominal voltage | 5 | V DC |
| Nominal current | 1 | mA |
| Poles | 1 | |
| Functionality | Normally opened | |
| Connection | RAST 2.5 | |

Temperature -/Spin speed selector switch

| | | |
|--------------------------------|------------|----------------|
| Positions | 7 | |
| Nominal voltage | 5 | V DC |
| Nominal current | 1 | mA |
| Poles | 1 | |
| Connection | RAST 2.5 | |
| Value of resistors $\pm 5\%$: | | |
| 5 - 6 | Position 1 | <10 Ω |
| 5 - 6 | Position 2 | 0.68 $k\Omega$ |
| 5 - 6 | Position 3 | 1.10 $k\Omega$ |
| 5 - 6 | Position 4 | 1.80 $k\Omega$ |
| 5 - 6 | Position 5 | 2.70 $k\Omega$ |
| 5 - 6 | Position 6 | 3.60 $k\Omega$ |
| 5 - 6 | Position 7 | 4.70 $k\Omega$ |

Push button switch

| | |
|-----------------|--------|
| ON/OFF | SM |
| Rapid | OPT. 1 |
| Half load | OPT. 2 |
| Intensive rinse | OPT. 3 |
| Rinse hold | OPT. 4 |

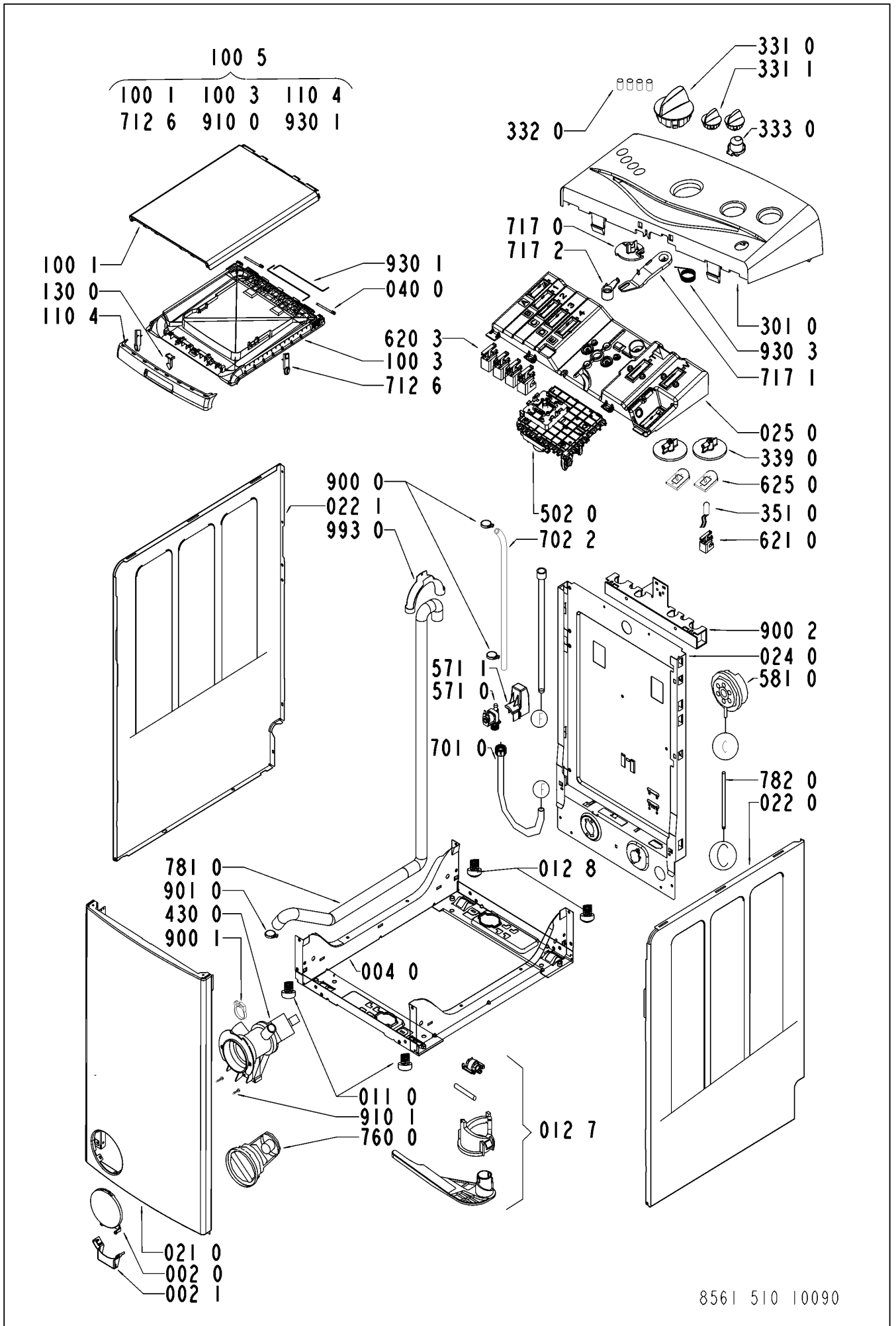
Spare part list

Model AWT 5109
Service No. 856151010090
Version 856151010090

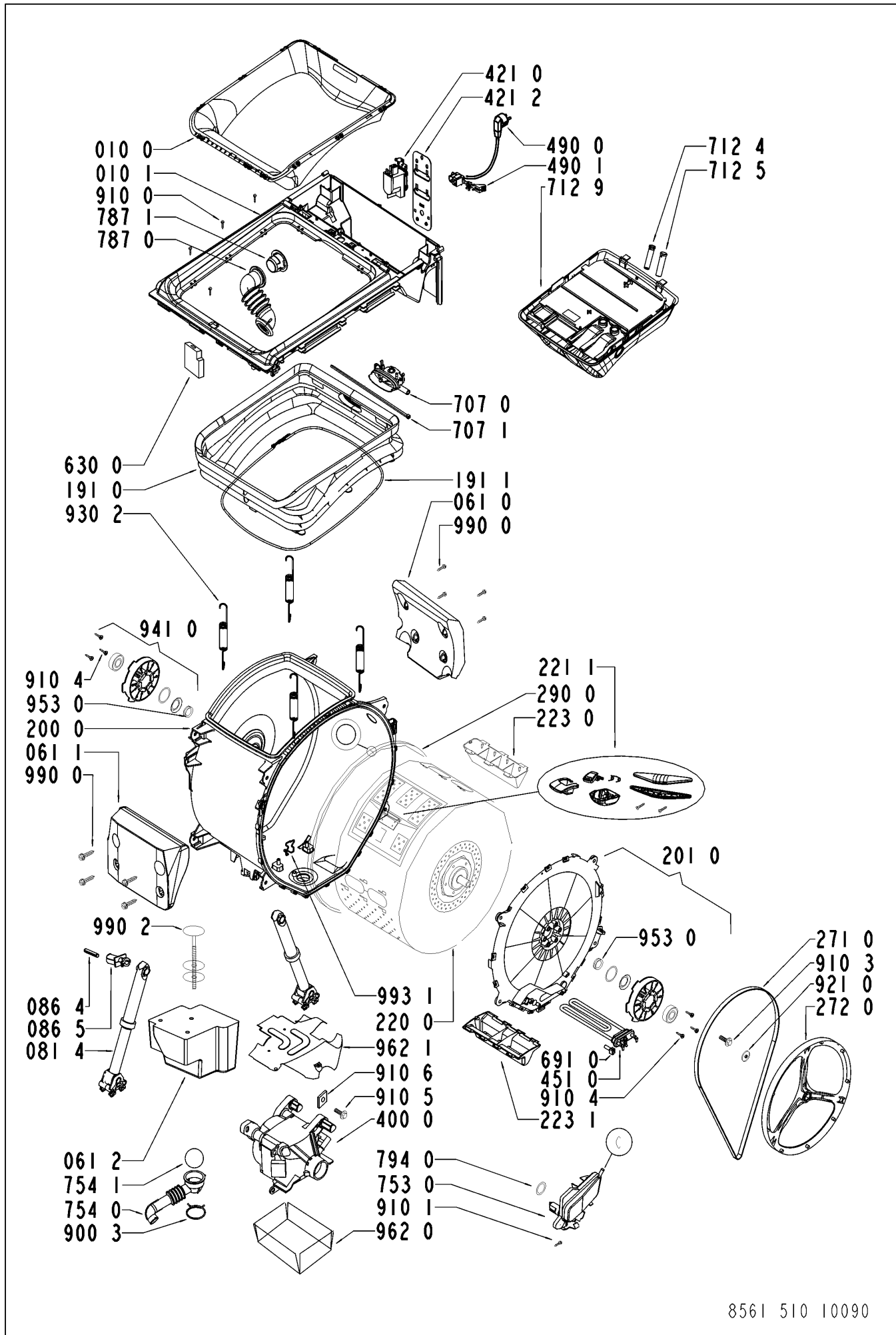
| Pos. No. | 12NC Code | Description |
|----------|-----------------------|--------------------------------|
| 002 0 | 4812 459 38057 | Flap round GW |
| 002 1 | 4812 459 38058 | Hinge flap GW |
| 004 0 | 4812 440 19625 | Drip tray assy |
| 010 0 | 4812 459 48175 | Door frame inner GW |
| 010 1 | 4812 440 11053 | Frame TOP RFI+nozzle box (kit) |
| 011 0 | 4812 462 48054 | Foot |
| 012 7 | 4812 310 18497 | Trolley kit front |
| 012 8 | 4812 528 78046 | Foot adjustable rear |
| 021 0 | 4812 440 10838 | Front,panel WH GW |
| 022 0 | 4812 440 10839 | Side panel right GW |
| 022 1 | 4812 440 10841 | Side panel left GW |
| 024 0 | 4812 440 19631 | Rear panel |
| 025 0 | 4812 440 10733 | Support Control panel WP M/H |
| 040 0 | 4812 417 19155 | Hinge bolt lid GW |
| 061 0 | 4812 466 88489 | Counter weight |
| 061 1 | 4812 466 88491 | Counter weight front |
| 061 2 | 4812 466 88492 | Counter weight bottom |
| 081 4 | 4812 529 18043 | Shock absorber |
| 086 4 | 4812 529 18045 | Pin f. Shock absorber |
| 086 5 | 4812 529 18052 | Damper f. Shock absorber |
| 100 1 | 4812 440 10842 | Lid outer GW |
| 100 3 | 4812 440 10843 | Lid inner GW |
| 100 5 | 4812 440 10845 | Lid assembly WH GW |
| 110 4 | 4812 498 18249 | Handle cpl. WH GW |
| 130 0 | 4812 417 19193 | Door latch GW |
| 191 0 | 4812 466 68596 | Door bellow |
| 191 1 | 4812 492 98014 | Strap f. bellow |
| 200 0 | 4812 418 18242 | Tub 4fix points |
| 201 0 | 4812 440 19644 | Cover cpl. |
| 220 0 | 4812 418 18507 | Drum 210 mm |
| 221 1 | 4812 310 18843 | Kit latch f.drums |
| 223 0 | 4812 418 48725 | Drum lifter |
| 223 1 | 4812 418 48605 | Drum lifter 54 mm with weight |
| 271 0 | 4812 358 18161 | Belt |
| 272 0 | 4812 528 88083 | Pulley 298 mm |
| 290 0 | 4812 532 68078 | Gasket |
| 301 0 | 4812 452 14449 | Control panel AWT 5109 |
| 331 0 | 4812 412 58979 | Knob Timer WH GW |
| 331 1 | 4812 412 58981 | Knob Options WH GW |
| 332 0 | 4812 410 29011 | Button Options WH GW |
| 333 0 | 4812 410 29031 | Button ON/OFF WP GW |
| 339 0 | 4812 413 18241 | Adapter |
| 351 0 | 4812 134 48317 | Pilot lamp |
| 400 0 | 4812 361 58364 | Motor MCA 45/64-148/ALB1 |
| 421 0 | 4812 121 18142 | Interf.filter 1,00 µ F |
| 421 2 | 4812 404 38679 | Holder RFI |
| 430 0 | 4812 360 18529 | Pump,draining |
| 451 0 | 4812 259 28819 | Heating element with hole |
| 490 0 | 4819 321 18136 | Cable,mains 2m SA |
| 490 1 | 4812 321 28367 | Strain relief |
| 502 0 | 4812 282 19554 | Timer ALPHA AA2-1088/45A |
| 571 0 | 4812 281 28393 | Valve,magnet |
| 571 1 | 4812 281 18049 | Cover f. valve |
| 581 0 | 4812 271 28526 | Pressostat AA65/40ELBI |
| 620 3 | 4819 410 28998 | Switch options |

| Pos. No. | 12NC Code | Description |
|----------|-----------------------|------------------------------|
| 621 0 | 4819 410 29004 | Switch ON/OFF |
| 625 0 | 4812 273 48002 | Selector Temp./Spin |
| 630 0 | 4812 271 38373 | Door lock hybrid |
| 691 0 | 4812 282 19485 | Sensor NTC SC1 |
| 701 0 | 4819 530 29034 | Hose, inlet |
| 702 2 | 4812 530 28871 | Hose VALVE-DISPENSER |
| 707 0 | 4812 526 48122 | Nozzle box cold cpl. |
| 707 1 | 4812 526 48049 | Clamp f. nozzle box |
| 712 4 | 4812 418 68302 | Siphon f. softener |
| 712 5 | 4812 418 68303 | Siphon f. bleach |
| 712 6 | 4812 418 68164 | Clip SOAP DISPENSER |
| 712 9 | 4812 418 68306 | Soap dispenser cpl. 4 ch. GW |
| 717 0 | 4812 321 38029 | Cam ALPHA 4ch plast.support |
| 717 1 | 4812 321 38023 | Lever SC1 |
| 717 2 | 4812 323 18021 | Lever adjustment (metal) |
| 753 0 | 4812 418 68187 | Chamber,air |
| 754 0 | 4812 530 28938 | Drainhose |
| 754 1 | 4812 530 28832 | Lock eco |
| 760 0 | 4812 480 58089 | Filter set pump |
| 781 0 | 4819 530 29035 | Hose,draining |
| 782 0 | 4812 530 28941 | Hose Pressostat |
| 787 0 | 4812 530 29309 | Hose Air Exhaust |
| 787 1 | 4812 530 29311 | Cover of hose |
| 794 0 | 4812 530 58098 | Gasket Airtrap |
| 900 0 | 4819 401 18686 | Clamp,hose |
| 900 1 | 4812 401 18431 | Clamp to pump |
| 900 2 | 4812 401 18461 | Support cable/hose |
| 900 3 | 4819 401 18529 | Clamp,hose |
| 901 0 | 4812 401 18462 | Clamp,hose drain hose |
| 910 0 | 4812 502 48347 | Screw,selftap 3,5x14SS |
| 910 1 | 4812 502 38151 | Screw 4x14 |
| 910 3 | 4812 502 18404 | Screw |
| 910 4 | 4812 502 18423 | Screw PT 7x15 |
| 910 5 | 4812 502 18401 | Screw M8X 35 |
| 910 6 | 4812 502 18399 | Nut Push in M 8 |
| 921 0 | 4812 400 18047 | Washer |
| 930 1 | 4812 492 48171 | Torsions spring |
| 930 2 | 4812 492 48162 | Spring |
| 930 3 | 4812 323 18019 | Spring f. lever |
| 941 0 | 4812 310 18578 | Bearing Kit |
| 953 0 | 4812 325 68001 | Shaft seal |
| 962 0 | 4812 440 98142 | Cover for Motor AC |
| 962 1 | 4812 440 98143 | Cover for Motor |
| 990 0 | 4812 310 18504 | Fixing mat.set front counter |
| 990 2 | 4812 310 18506 | Fixing mat.set bottom |
| 993 0 | 4812 530 29269 | Bow |
| 993 1 | 4812 290 18025 | Clamp heatingelement |

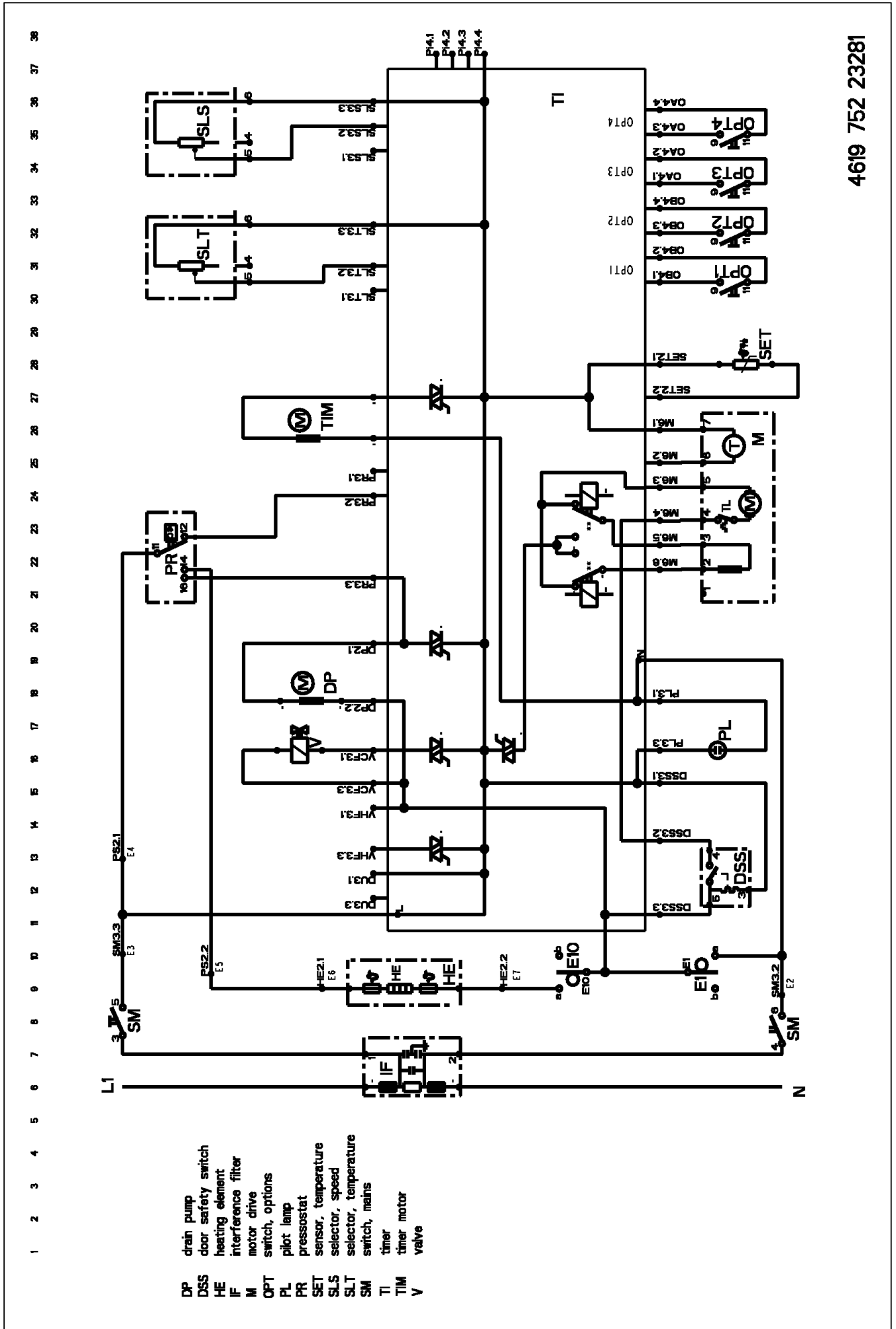
Exploded view



Exploded view



Circuit diagram

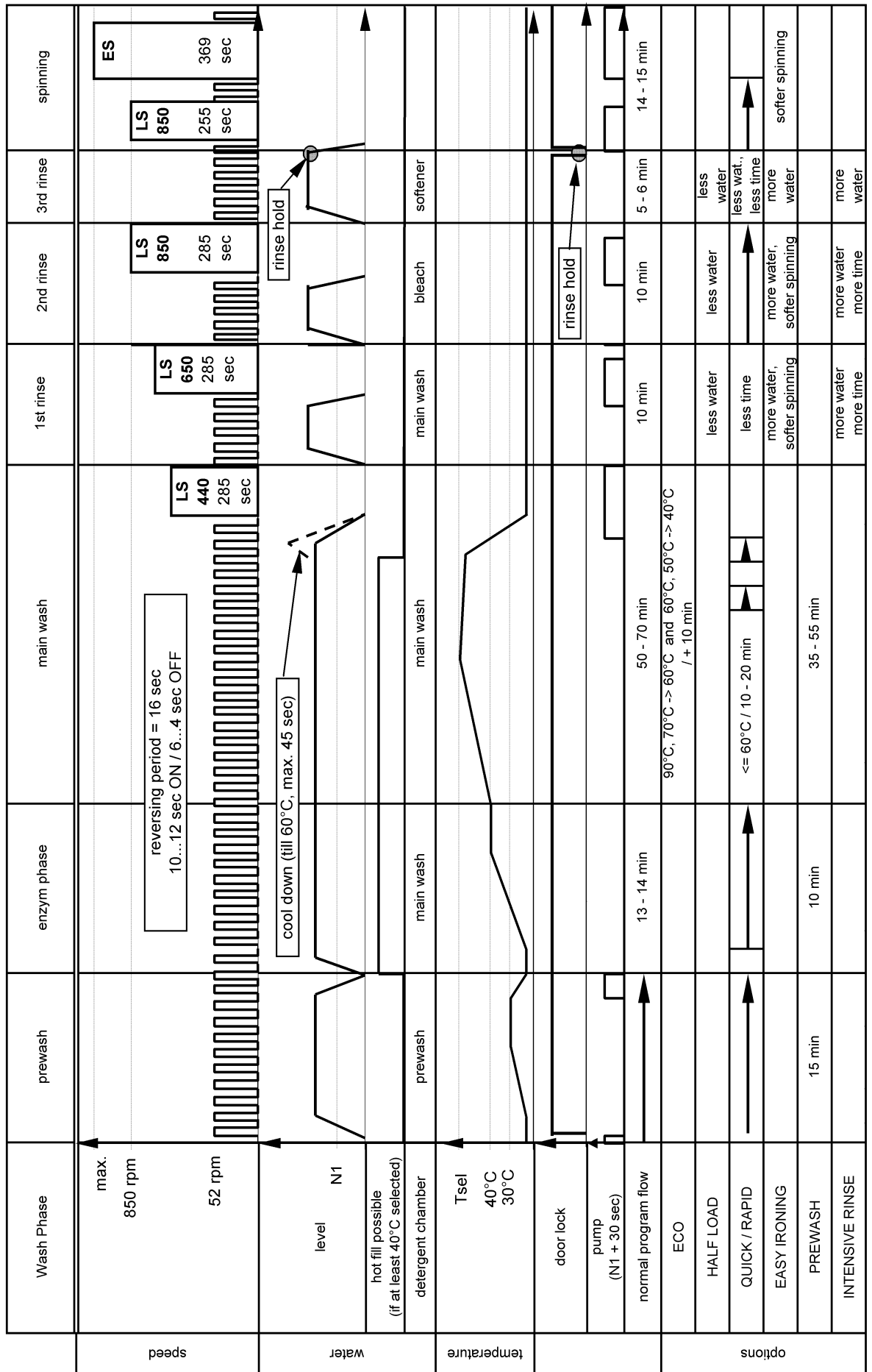


Program chart

4619 752 27251

Wash Cycle of COTTON

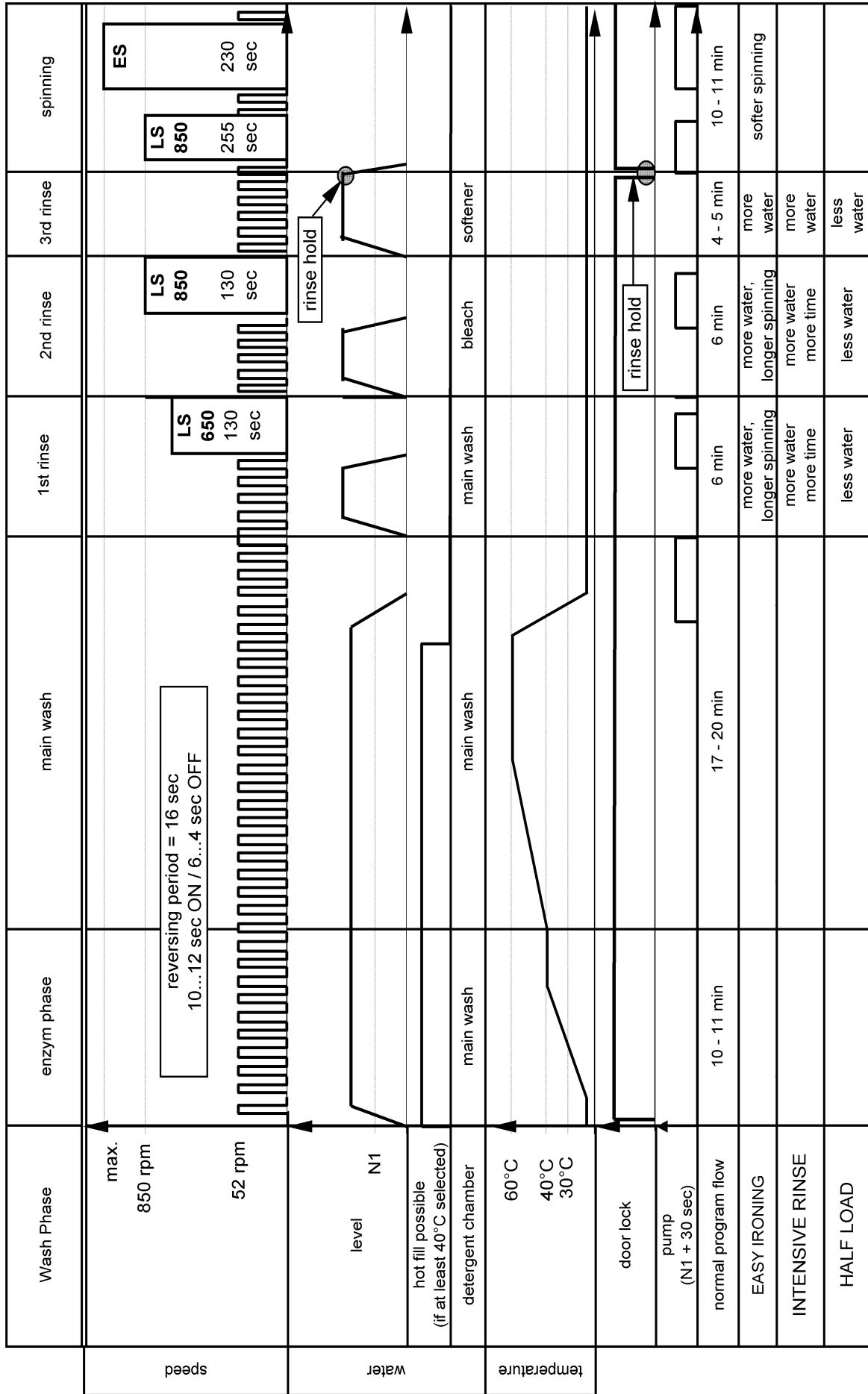
ALLIANCE LR Alpha



Program chart

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ALLIANCE LR Alpha Wash Cycle of CHRONO

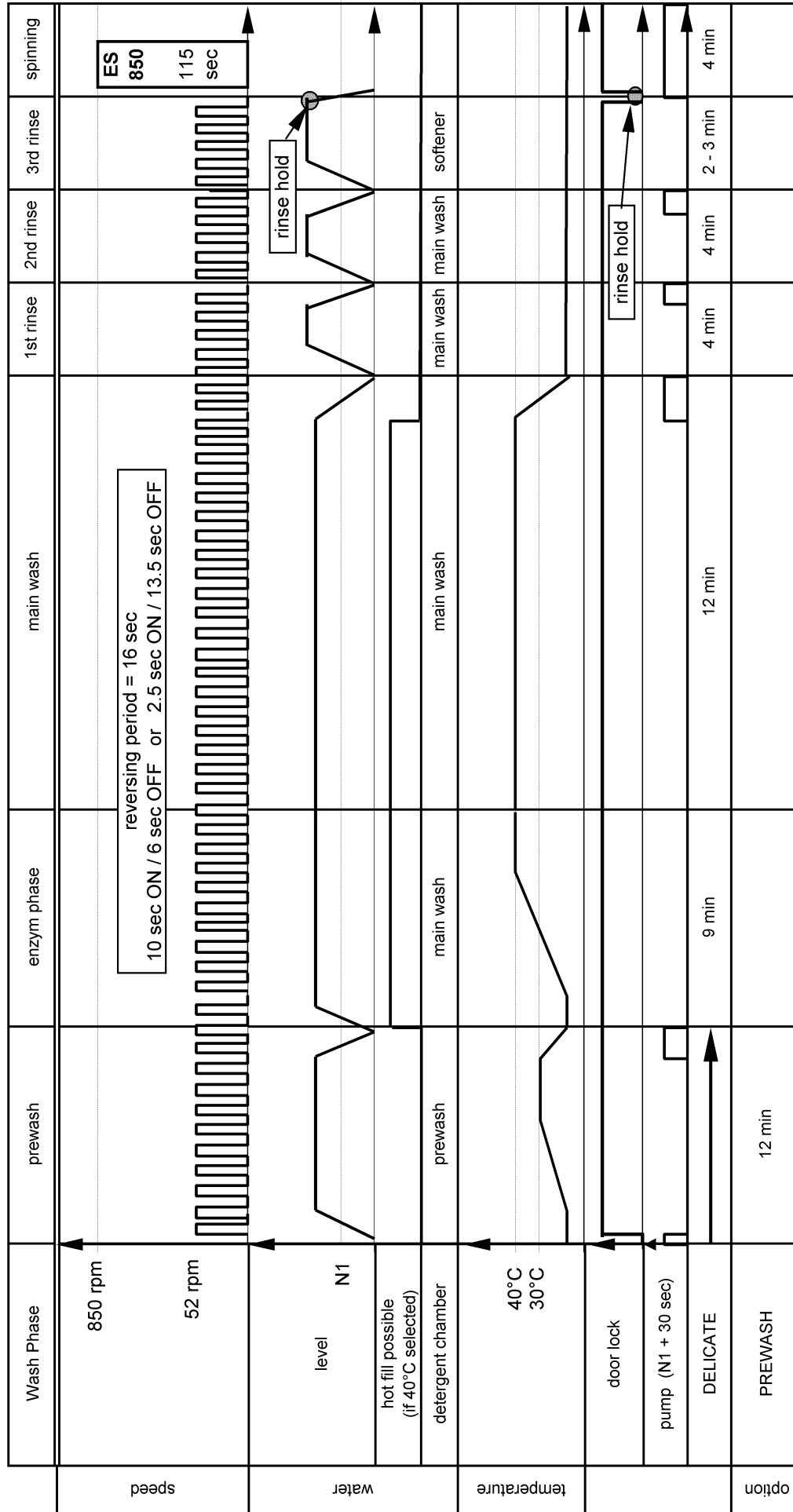


Program chart

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Wash Cycle of DELICATE

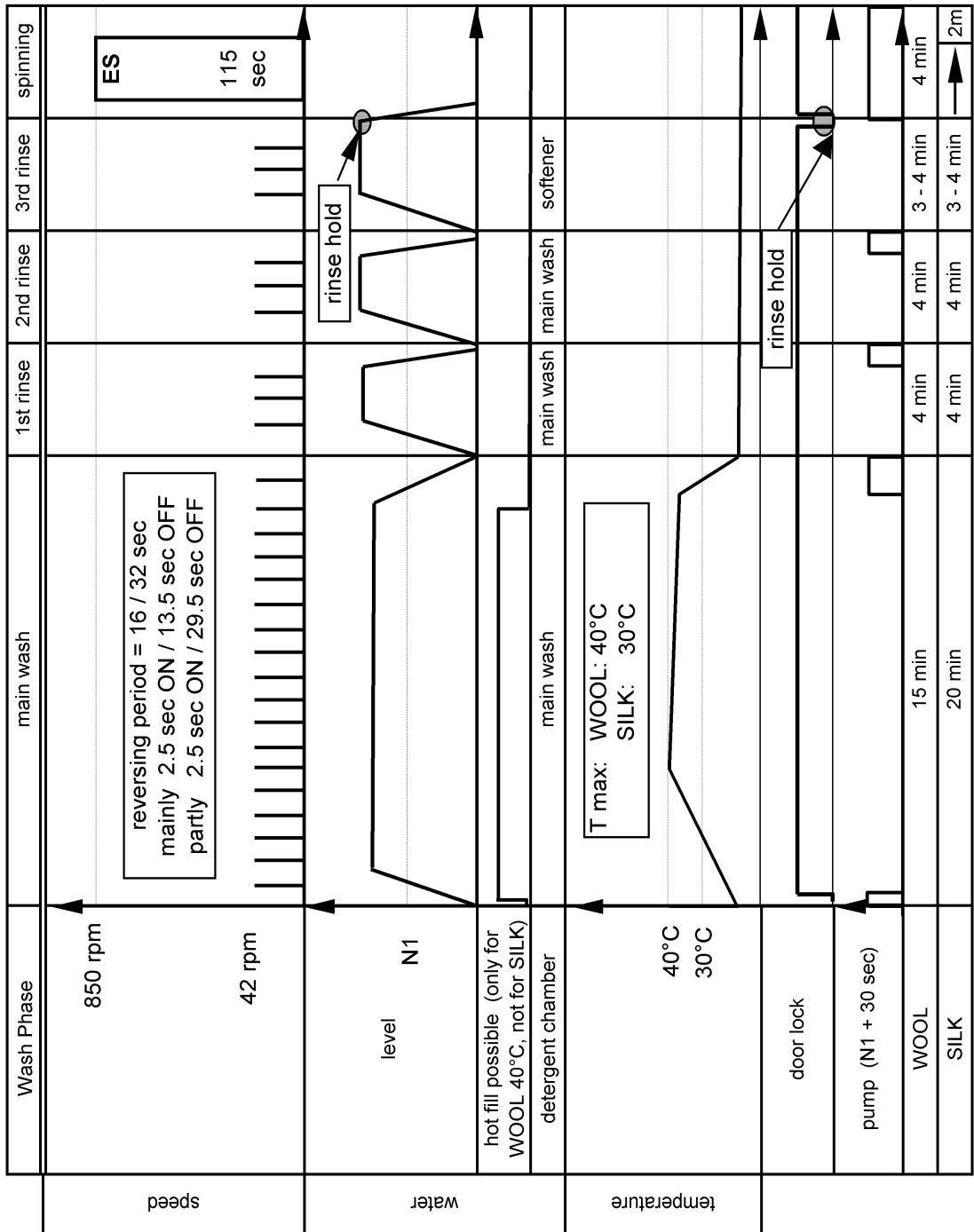
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Program chart

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Wash Cycles of WOOL and SILK



Program chart

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Spinning Profiles

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