



Service Manual

Tumble dryer

Air Vent

AWZ 241

Model	AWZ 241	
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Technical data

Dimensions

Height	85	cm
Width	59.5	cm
Depth	56	cm

Weight

Gross weight	33	kg
Net weight	31	kg

Surroundings temperature

Room temperature maximum	35	°C
Room temperature minimum	5	°C

Humidity

Relative humidity maximum	95	%
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Power connection

Voltage	230	V
Frequency	50	Hz
Connected load	2.8	kW
Fuse	16	A

Drum data

Volume	104	l
Drum speed	56 ± 3	rpm
Airflow	120-160	m ³ /h

Capacity of laundry

Cotton max.	5	kg
Easy care max.	2.5	kg

Exhaust hose

Inner diameter	10	cm
Maximum allowable length (with 2 bows)	4	m

Electrical components

Heating

Type	IRCA 1T.8275001
Nominal voltage	230 +10% /-15% V
Nominal power	2500 ± 5%W
Heating resistances:	
Connection points	19.5 - 23 Ω

Thermostats

Caution:



If one of the thermostats (TL, TH1.2) is defective, the whole heating element has to be changed for safety reason !



Therefore, the thermostats are not available as separate spare parts !

Safety thermostat (in heater) TL

Switch off (temp.)	298 -10 °C
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Fluff thermostat (in heater) TH 1.2

Switch off (temp.)	220 ± 7.5 °C
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Exhausting thermostat (in airchannel) TH 1.1

Switch on (temp.)	38 ± 5 °C
Switch off (temp.)	53 ± 4 °C

Control module

Type	Invensys 3224
Nominal voltage	230+10% /-15%V
Frequency	50/ 60 Hz

Rated currents

Motor	≤ 6 A
Heater	≤ 16 A

Temperature

Ambient	up to 85 °C
Storage	up to 85 °C

Technical data**Main- and blower motor**

Type	1-phase asynchronous	
Nominal voltage	230 +10% / -15%	V
Frequency	50	Hz
Power consumption	295± 7%	W
Resistances of coils:		
Main coil (2-3)	24.7± 7%	Ω
Auxiliary coil (2-1)	25.6± 7%	Ω
Rated speed with 5 kg laundry and 100% rest humidity	2730	rpm
Capacitor	10 ± 7%	μ F

Radio interference filter

Typ	ISKRA 7325	
Voltage max.	275	V
Capacity	100 nF X1 + 2x 15nF Y2 + 1MQ	

Display

No. of LEDs	7
Option buttons	- Start - Gentle - Buzzer
Program selector	11 positions integrated ON/OFF (stand-by)

Spare part list

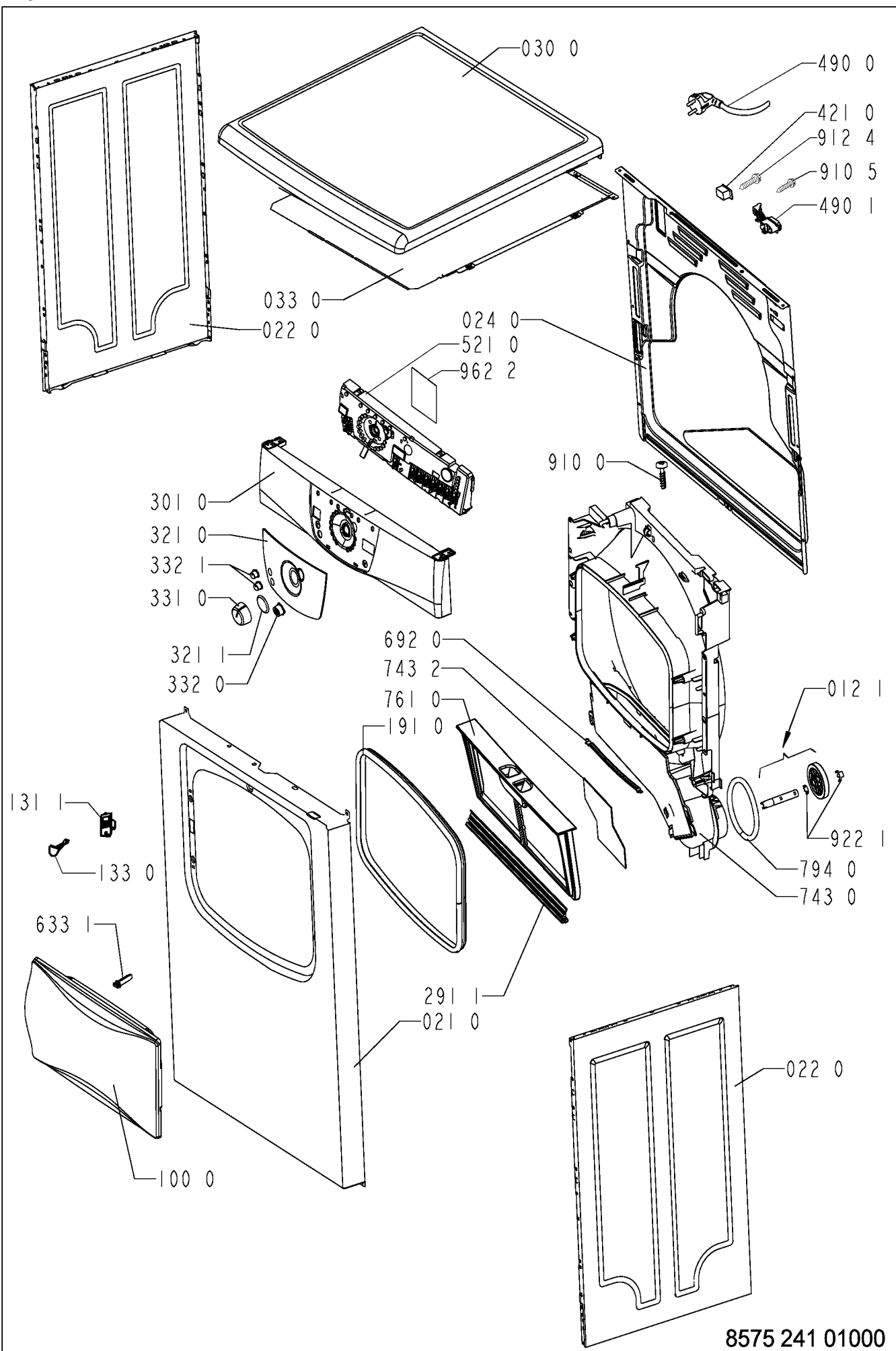
Model
Service No.
Version

AWZ 241
857524101000
857524101000

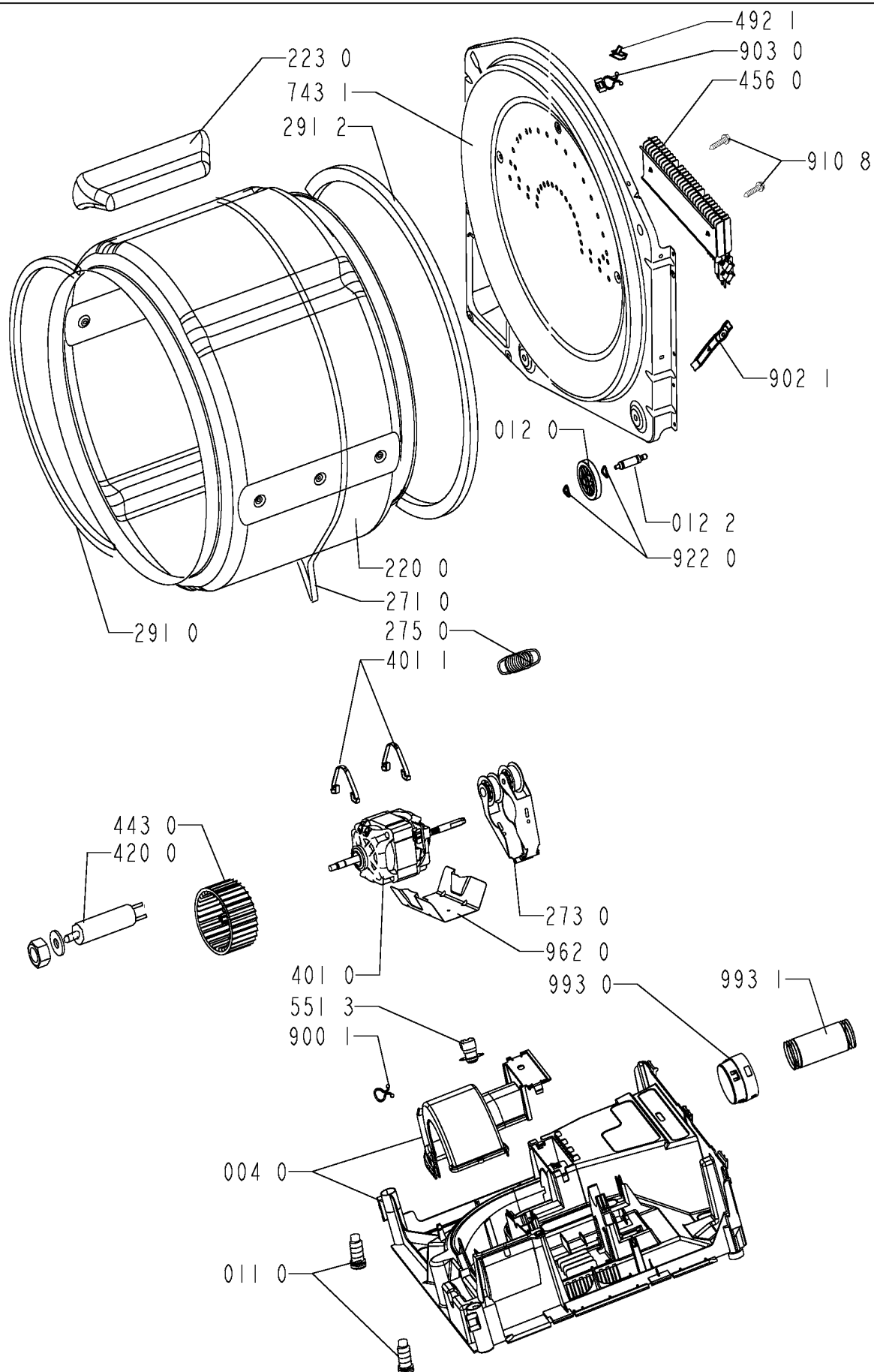
Pos. No.	12NC Code	Description
004 0	4812 530 48144	Bottom
011 0	4812 500 18054	Foot adjustable
012 0	4812 528 78033	Roll
012 1	4812 528 98003	Shaft Front + Roll
012 2	4812 520 28068	Shaft rear
021 0	4812 440 19387	Front,panel
022 0	4812 440 19445	Panel,side
024 0	4812 440 19467	Panel, rear from 98/34
030 0	4812 440 19779	Table top R0 VBL
033 0	4812 310 18582	Kit Push in cover
100 0	4812 416 18182	Door R0 WH VBL
131 1	4812 271 38362	Door lock
133 0	4812 417 28049	Pin Door
191 0	4812 466 68539	Gasket, door
220 0	4812 418 18199	Drum coated
223 0	4812 418 88027	Drum lifter
271 0	4812 358 18162	Belt 1965-H7 EH81
273 0	4812 358 18055	Pulley jokey
275 0	4812 492 68129	Spring
291 0	4812 466 68563	Gasket Drum front
291 1	4812 466 68541	Gasket Fluff Filter
291 2	4812 466 68562	Gasket Drum rear
301 0	4812 452 10892	Control panel
321 0	4812 452 10891	Insert panel
321 1	4812 446 88127	Fastener f. Inlay
331 0	4812 414 58111	Knob,timer VBL cpl.
332 0	4812 276 18329	Button VBL WH EL Start
332 1	4812 276 18328	Button VBL WH EL Opt.
401 0	4812 361 18247	Motor
401 1	4812 401 18421	Clamp Motor
420 0	4812 121 18144	Capacitor 10 µ F
421 0	4812 121 18158	Interf.filter
443 0	4812 361 18248	Blower Wheel
456 0	4812 259 28674	Heating element 2500W
490 0	4812 321 18087	Cable,mains
490 1	4812 321 28367	Strain relief
492 1	4812 401 18195	Clip
521 0	4812 214 78615	Control board Type 3224
551 3	4812 271 28369	Thermostat
633 1	4812 276 18271	Pin Start Reset
692 0	4812 278 58001	Sensor
743 0	4812 530 48145	Air guide
743 1	4812 530 48147	Heating chamber
743 2	4812 466 68538	Seal for blower
761 0	4812 480 58077	Filter
794 0	4812 466 28107	Gasket
900 1	4812 290 88053	Clip
902 1	4812 256 38002	Bracket Roller
903 0	4812 532 28028	Clip,fix
910 0	4812 502 38057	Screw Torx 4,2 x 13
910 5	4819 502 38265	Screw VAB 4,5x20
910 8	4812 502 48347	Screw,selftap 3,5x14SS
912 4	4812 502 48015	Screw 4,0x16-TORX
922 0	4812 532 58005	Ring,circlip Triring
922 1	4812 532 58007	Ring,circlip

Pos. No.	12NC Code	Description
962 0	4812 466 38012	Protector Motor
962 2	4812 466 38056	Protec,el.parts Foil Aluminium
993 0	4812 263 78014	Adapter
993 1	4812 310 18413	Accessory hose kit AMH 577

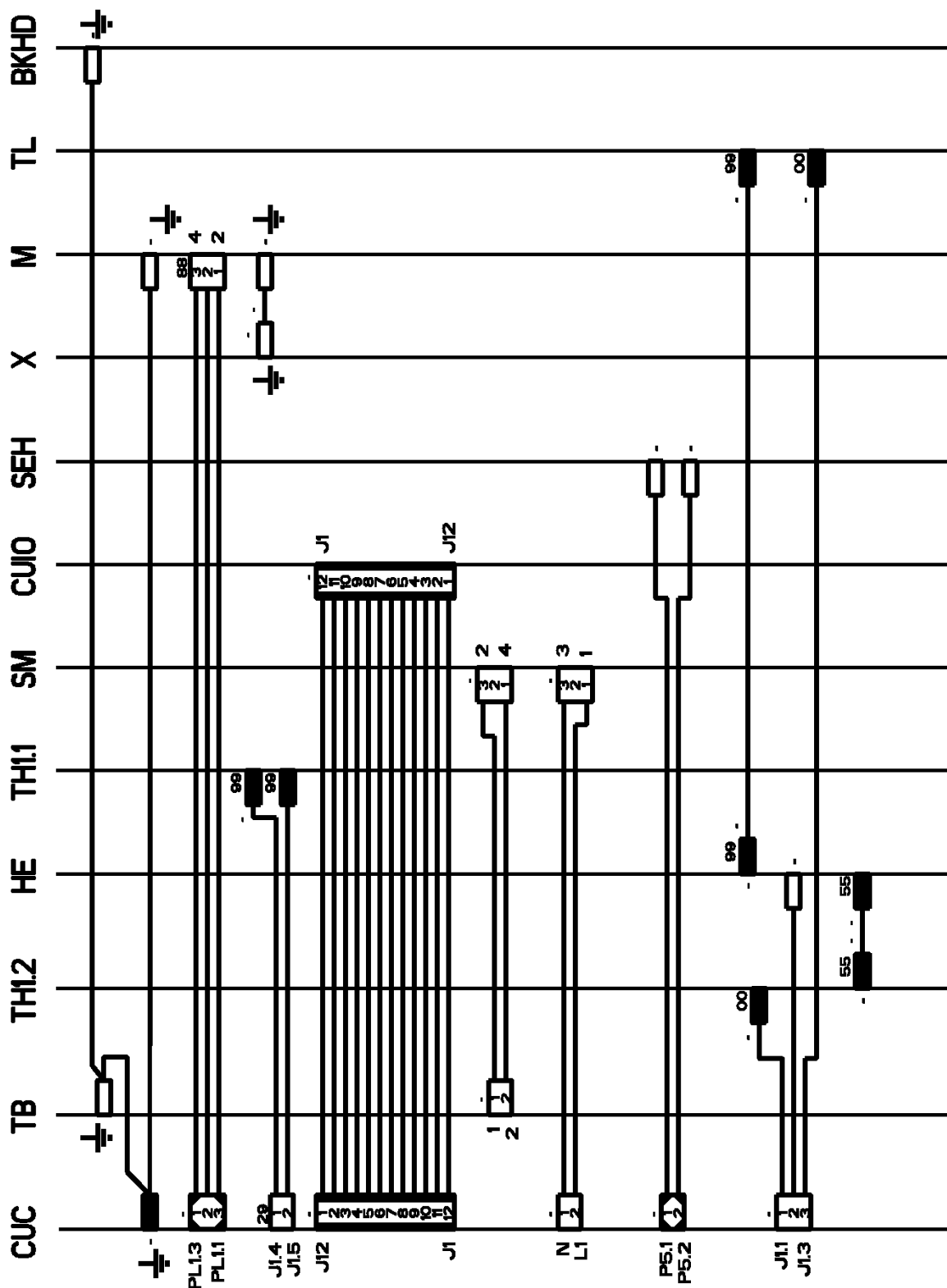
Exploded view



Exploded view



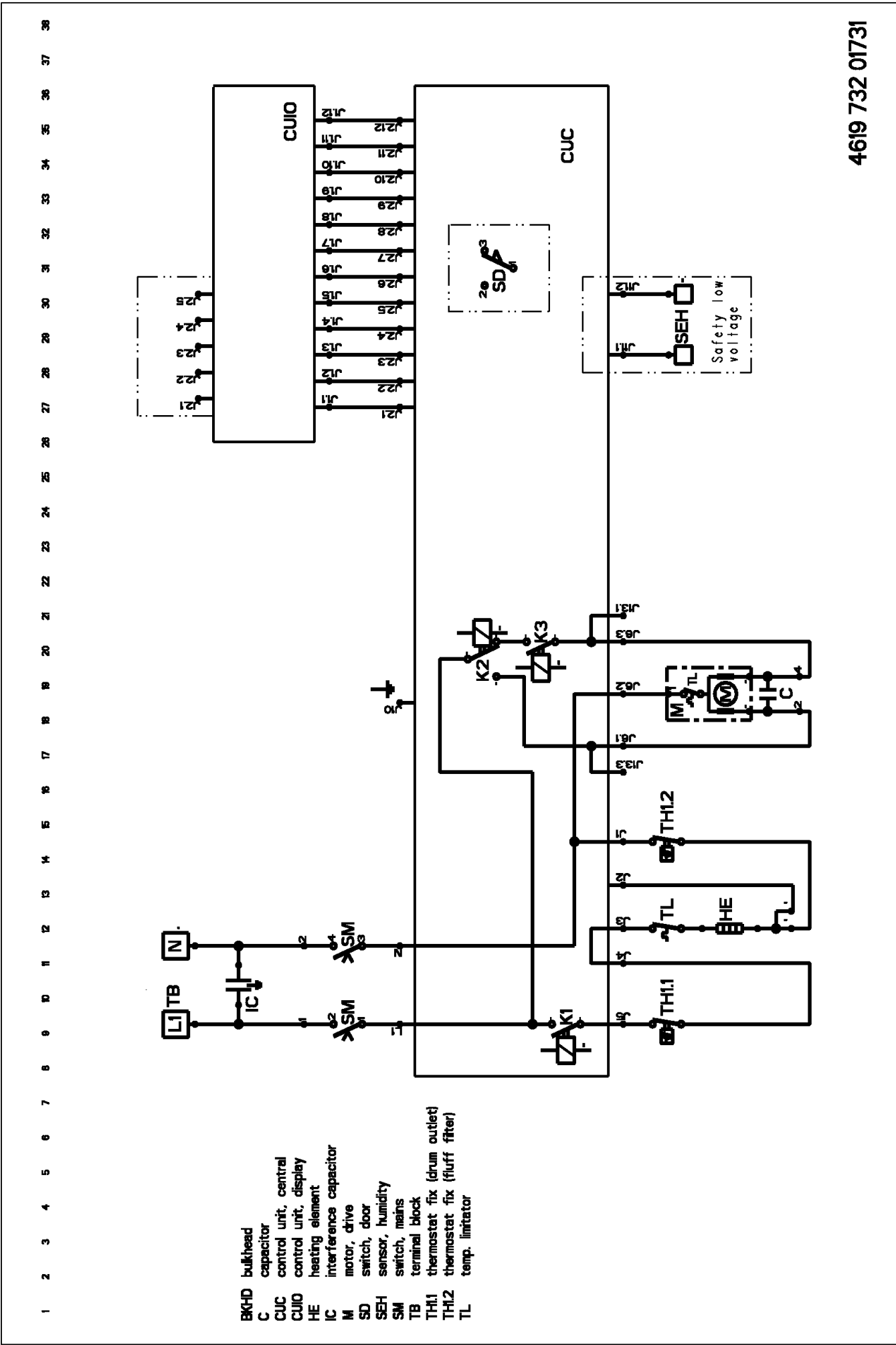
Wiring diagram



00 black
11 brown
22 red
33 orange
44 yellow
55 green
66 blue
77 violet
88 grey
99 white
29 pink

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Circuit diagram



Text/Legend

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Program flow WH AV

Program Phase	Options influencing program phase	Motor movement	Heating Cycles				Humidity measurement	Duration
			Cotton	Easy Care	Time Drying (Jet)	Airing		
Programming (Selection)	-	off	off	off	off	off	off	-
Drying I	Gentle	rev	100%	100%	75%		on	RH=HT1 or t ₁
	other options	rev	100%	100%	100%	↓	on	RH=HT1 or t ₁
Drying II	Gentle	rev	100%	90%	↓	-	on	RH=HT2 or timeout
	other options	rev	100%	100%	90%	↓	on	RH=HT2 or timeout
Drying III	Gentle	rev	90%	90%	↓	-	on	RH=HT3 or timeout
	other options	rev	100%	100%	↓	↓	on	RH=HT3 or timeout
Drying IV	Gentle	rev	75%	75%	↓	-	on	RH=target or timeout
	other options	rev	75%	75%	↓	↓	on	RH=target or timeout
Cool Down	-	rev	off	off	off	off	off	t _{cd}
Anticrease	-	rev-ac	off	off	off	off	off	t _{ac}
Drying End	-	off	off	off	off	off	off	

Conditions to go
in the next phasepush start button
AND door closedWH AV HT 1
OR durationWH AV HT 2
OR timeoutWH AV HT 3
OR timeoutselected humidity
OR timeout

duration

duration

Humidity Targets	
HT1	RH=22 %
HT2	RH=22 %
HT3	RH=15 %
selected humidity	RH= selected program target

Reversing type	off (sec)	cw (sec)	off (sec)	ccw (sec)
rev	2	80	2	6
rev-ac	2	80	2	6

Duration	
t ₁	60 min Cotton / 20 min Easy Care
timeout	60 min
t _{cd}	6 min
t _{ac}	60 min

Heater cycles	Heater on	Heater off
100%	180 sec	0 sec
90%	162 sec	18 sec
83%	150 sec	30 sec
75%	136 sec	44 sec

Text/Legend

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Program flow WH CD WCT and WH CD WCB

			Heating Cycles					
Program Phase	Options influencing program phase	Motor movement	Cotton	Easy Care	Time Drying (Jet)	Airing	Humidity measurement	Duration
Programming (Selection)	-	off	off	off	off	off	off	-
Drying I	Gentle	rev	100%	100%	78%		on	RH=HT1 or t ₁
	other options	rev	100%	100%	100%	⇓	on	RH=HT1 or t ₁
Drying II	Gentle	rev	90%	90%	⇓	-	on	RH=HT2 or timeout
	other options	rev	90%	90%	90%	⇓	on	RH=HT2 or timeout
Drying III	Gentle	rev	78%	78%	⇓	-	on	RH=HT3 or timeout
	other options	rev	90%	83%	⇓	⇓	on	RH=HT3 or timeout
Drying IV	Gentle	rev	67%	67%	⇓	-	on	RH=target or timeout
	other options	rev	78%	67%	⇓	⇓	on	RH=target or timeout
Cool Down	-	rev	off	off	off	off	off	t _{cd}
Anticrease	-	rev-ac	off	off	off	off	off	t _{ac}
Drying End	-	off	off	off	off	off	off	

Conditions to go in the next phase

push start button AND door closed

WH CD HT 1 OR duration

WH CD HT 2 OR timeout

WH CD HT 3 OR timeout

selected humidity OR timeout

duration

duration

Humidity Targets	
HT1	RH=22 %
HT2	RH=22 %
HT3	RH=15 %
selected humidity	RH= selected program target

Reversing type	off (sec)	cw (sec)	off (sec)	ccw (sec)
rev	2	80	2	6
rev-ac	2	80	2	6

Duration	
t ₁	60 min Cotton / 20 min Easy Care
timeout	60 min
t _{cd}	12 min, 9min for 20min jet program
t _{ac}	60 min

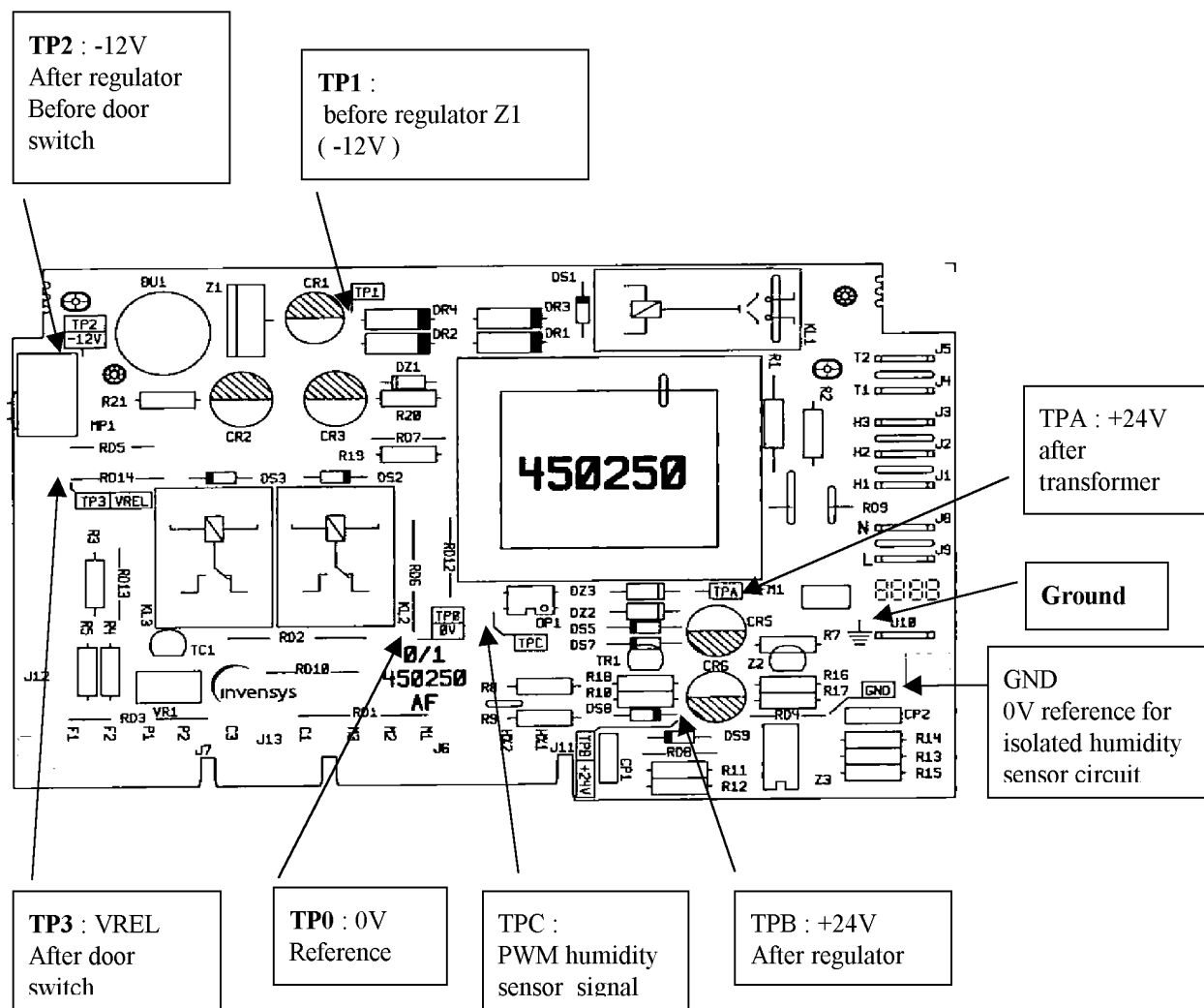
Heater cycles	Heater on	Heater off
100%	180 sec	0 sec
90%	162 sec	18 sec
83%	150 sec	30 sec
75%	136 sec	44 sec

Text/Legend

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Testpoints at power board

WH AV, WH CD WCT and WH CD WCB



Test-Voltages:

TP0: reference for -12V circuit (RD6)
TP1: -12V after transformer, unregulated (DR4)
TP2: -12V regulated (MP1)
TP3: -12V regulated if door closed (RD14)
-1,1V if door opened

GND: reference for classII isolated humidity sensor circuit (RD4)
TPA: +24V after transformer, unregulated (DZ3)
TPB: +24V regulated (DS8)
TPC: PWM signal of humidity sensor (OP1)

Text/Legend

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Test programs

The TEST MODE delivers the possibility to check several functions of the dryer independently of the normal drying programs.

Entering the Test Mode

- a) Close door of the dryer or block door switch
- b) Rotate program selector to position „**Airing**“
- c) Press and release option button „Gentle“ three times within 6 sec. (If accidentally the button is pushed more than three times, this will have no negative impact. The test mode will start in step1 anyway)

If the sequence a) - c) is correct: => Test Mode basic signal is displayed (see Test mode display) and Step1 of test program is executed.

Advance to next step

Push OPT2 "Buzzer"

Leaving the Test Mode

The TEST MODE is terminated by:

- Push Start Button
OR
- Interrupt of the mains supply for a minimum time of 27 sec.
OR
- Open door
OR
- Turn rotary selector
OR
- Last step of test program is reached and button OPT2 "Buzzer" is pushed once more

Test mode display

When testmode is entered:

LED group:	Behaviour:
Program sequence LEDs (PS2...PS5)	Indication of test step acc. table „indication“
Buzzer	Beeps when button OPT1 („Gentle“) is pushed

Text/Legend

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Indication

Indicator	Test Program Step								
	Step 1>>	Step2>>	Step3>>	Step4>>	Step5>>	Step6>>	Step7>>	Step8>>	Step9
LED PS2 (Drying)	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON
LED PS3 (Cool Down)	ON	ON	OFF	OFF	ON	OFF	OFF	ON	ON
LED PS4 (End)	ON	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
LED PS5 (Anti Crease)	ON	OFF	OFF	ON	OFF	OFF	ON	OFF	ON

After sales service test program

The test program works sequentially, that means the change from one program step to the next has to be done only by request of pushing the OPT2 "Buzzer" button!

Test Program Step No.	Test/Tested Component	Description	
Step1**	Factory Test Program 1	Motor ON, short reversing rev-x Heating Element ON, cycle heat-x Display and Button Test: ON Humidity Input Test: ON	Test Mode is entered
Step2**	Factory Test Program 2	Motor ON Heating Element: ON, cycle heat-y Display and Button Test**: ON Humidity Input Test**: ON	Push OPT2 button
Step3	Pump & Float Switch	WH CD WCT: 1) Fill in water untill float switch is switched. 2) Container LED is switched ON and pump is switched ON WH CD WCB: 1) Pull out container (switch switches) 2) Container LED is switched ON WH AV: skip this test step manually!	Push OPT2 button
Step4	Motor CCW	Motor: ON, ccw Heating Element: OFF	Push OPT2 button
Step5	Motor CW	Motor: ON, cw Heating Element: OFF	Push OPT2 button
Step6	Heating Element Full Power	Heating Element ON, 100% Motor: ON, cw	Push OPT2 button
Step7	Heating Element Reduced Power	Heating Element ON, 78% Motor: ON, cw	Push OPT2 button
Step8**	Humidity Input	Description see below	Push OPT2 button
Step9	Display last failure/error code	Last error/failure code is displayed	Push OPT2 button
EXIT	Leave Test Mode	Go to Programming phase (Selection)	Push OPT2 button

**Description see below

Text/Legend

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Heating and Reversing Cycle for Factory Test Program 1 (Step1):

Dryer Type	Heating Element heat-x		Motor rev-x			
	Heater ON	Heater OFF	CW ON	OFF	CCW ON	OFF
WH CD WCT / WCB	12 sec	0 sec	4 sec	2 sec	4 sec	2 sec
WH AV	11 sec	0 sec	3 sec	2 sec	4 sec	2 sec

Heating and Reversing Cycle for Factory Test Program 2 (Step2):

Dryer Type	Heating Element heat-x		Motor rev-x			
	Heater ON	Heater OFF	CW ON	OFF	CCW ON	OFF
WH CD WCT / WCB	26 sec	0 sec	10 sec	3 sec	10 sec	3 sec
WH AV	21 sec	0 sec	10 sec	3 sec	5 sec	3 sec

Humidity Measurement Test

Max. Duration: no limit

Description:

- Test is active during Steps 1+2 and Step8
- Resistors have to be connected at the humidity sensor
- Door must be closed or door switch blocked (otherwise 24V power supply off)
- LEDs indicates measured humidity level due to following table:

Resistances	LED OPT1 (,Gentle‘)	LED Failure 2 (,Fluff Filter‘)
250 kOhm	ON	OFF
1130 kOhm	ON	ON
3700 kOhm	OFF	ON
open circuit	OFF	OFF

Display and Button test

Description:

- Test is active during all test steps.
- If option buttons are pushed LEDs are switched on and off. (exception: OPT1 button ,Gentle‘, This button is used for humidity measurement)