



Service Manual

Tumble dryer

Air Vent

AWZ 234

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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	Aluminium mass heating	
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 on (temp.)	195 ± 7.5 °C
Switch off (temp.)	220 ± 7.5 °C

Exhausting thermostat (in airchannel) TH 1.1

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

Control module Omega

Type	Electronic Timer Flextronics max.options	
Nominal voltage	230± 10% V	
Frequency	50/60	Hz
Rated currents		
Motor	≤ 6	A
Heater	≤ 16	A
Drumlight	≤ 0.1	A
Ambient temperature	up to 50 °C	
Storage temperature	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	10μ F± 7%/420V470V	

Radio interference filter

Typ	EICHHOFF BV 16.250/119	
Voltage max.	250	V
Capacity	100 nF X1 + 2x 15nF Y2	

Display

WH display module Low No. of LEDs	Flextronics 19 + Start LED
Options buttons	- Start - Gentle - Rapid - Buzzer - Anticrease
Program selector	12 positions integrated ON/OFF contact 24V AC

Spare part list

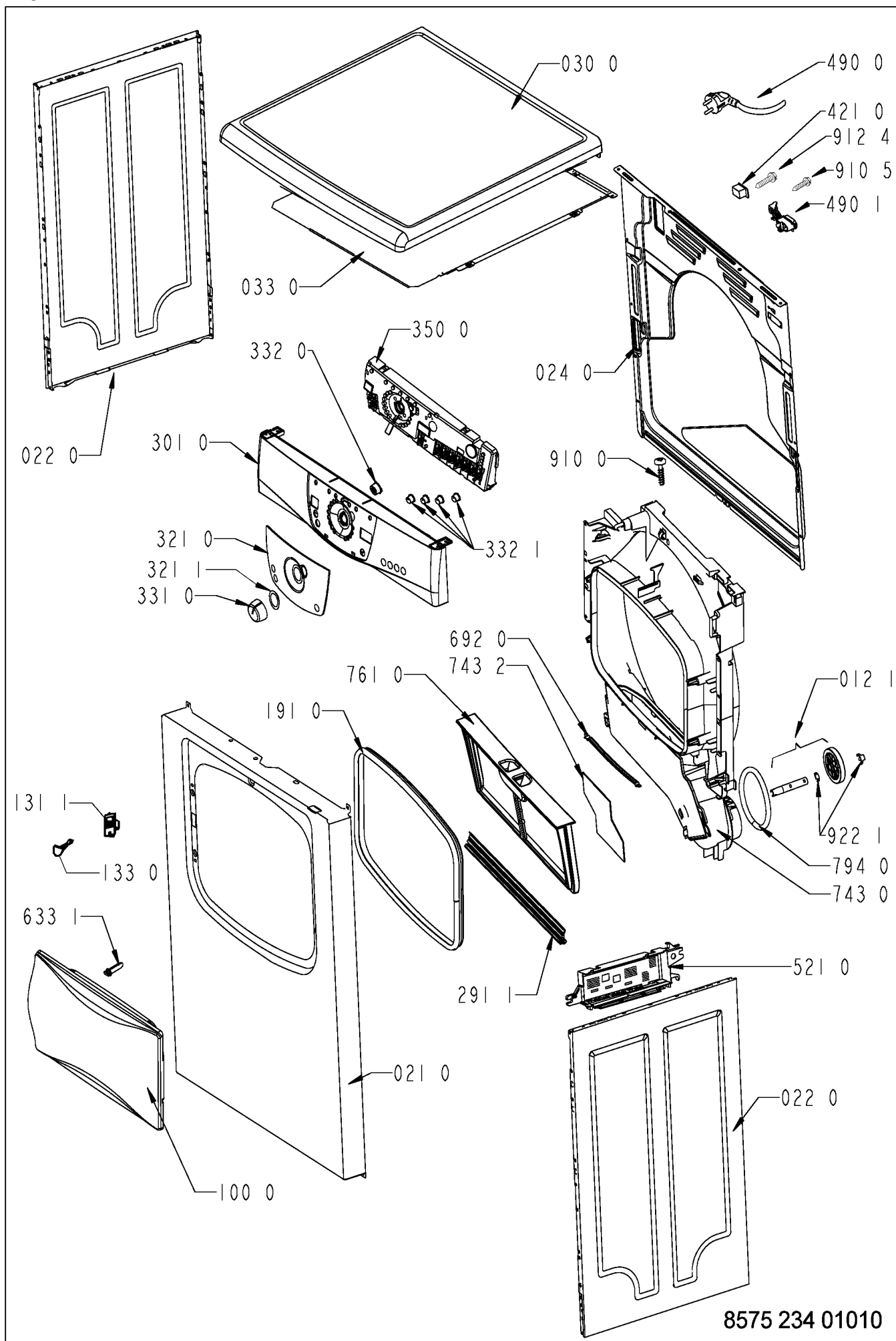
Model
Service No.
Version

AWZ 234
857523401010
857523401010

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
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 10486	Control panel
321 0	4812 452 10487	Insert panel AWZ 234
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.
350 0	4812 214 78487	Display board VBL AV low
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 18161	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 78456	Control board AV WH high (Y)
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
922 0	4812 532 58005	Ring,circlip Triring

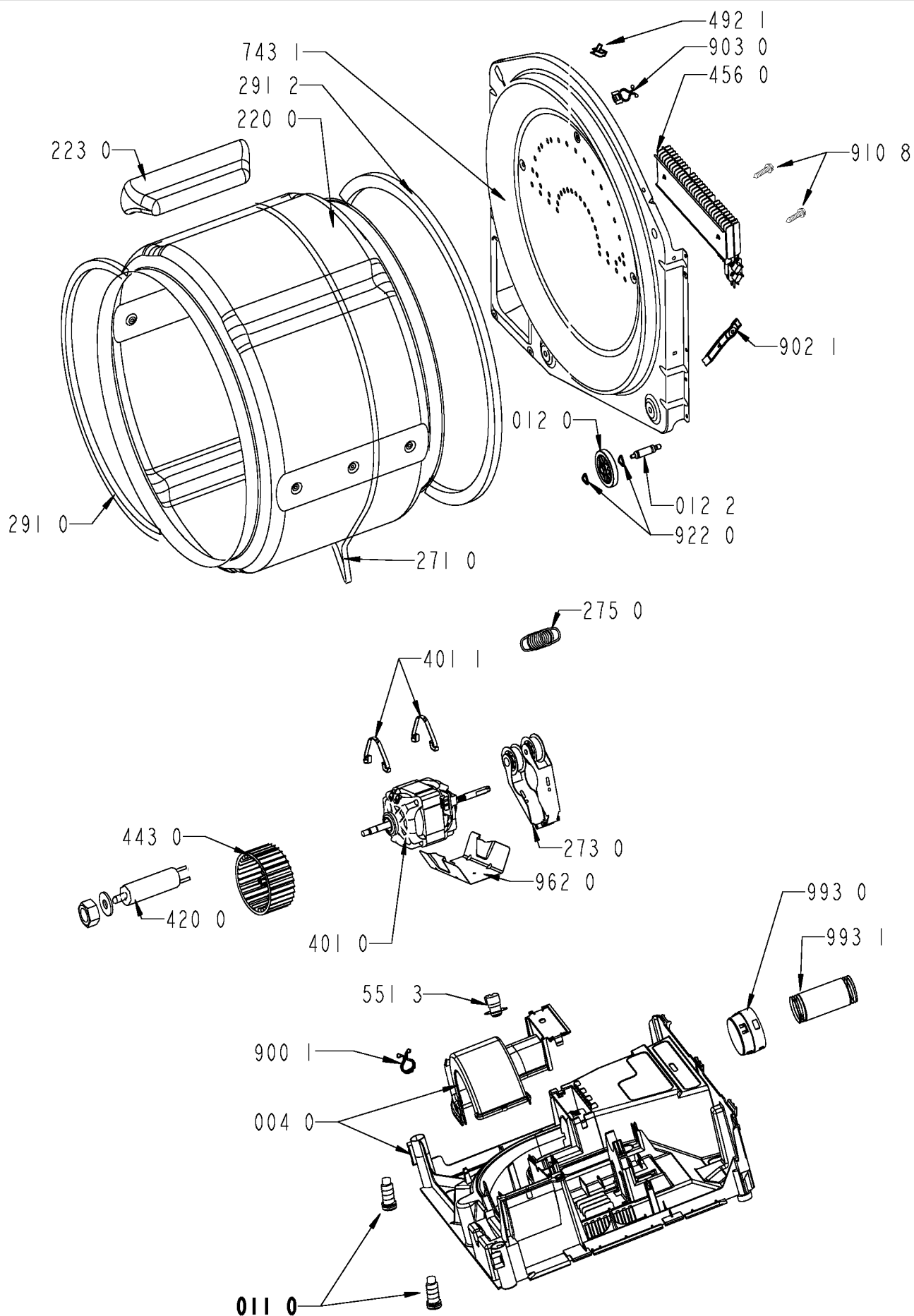
Pos. No.	12NC Code	Description
922 1	4812 532 58007	Ring,circlip
962 0	4812 466 38012	Protector Motor
993 0	4812 263 78014	Adapter
993 1	4812 310 18413	Accessory hose kit AMH 577

Exploded view

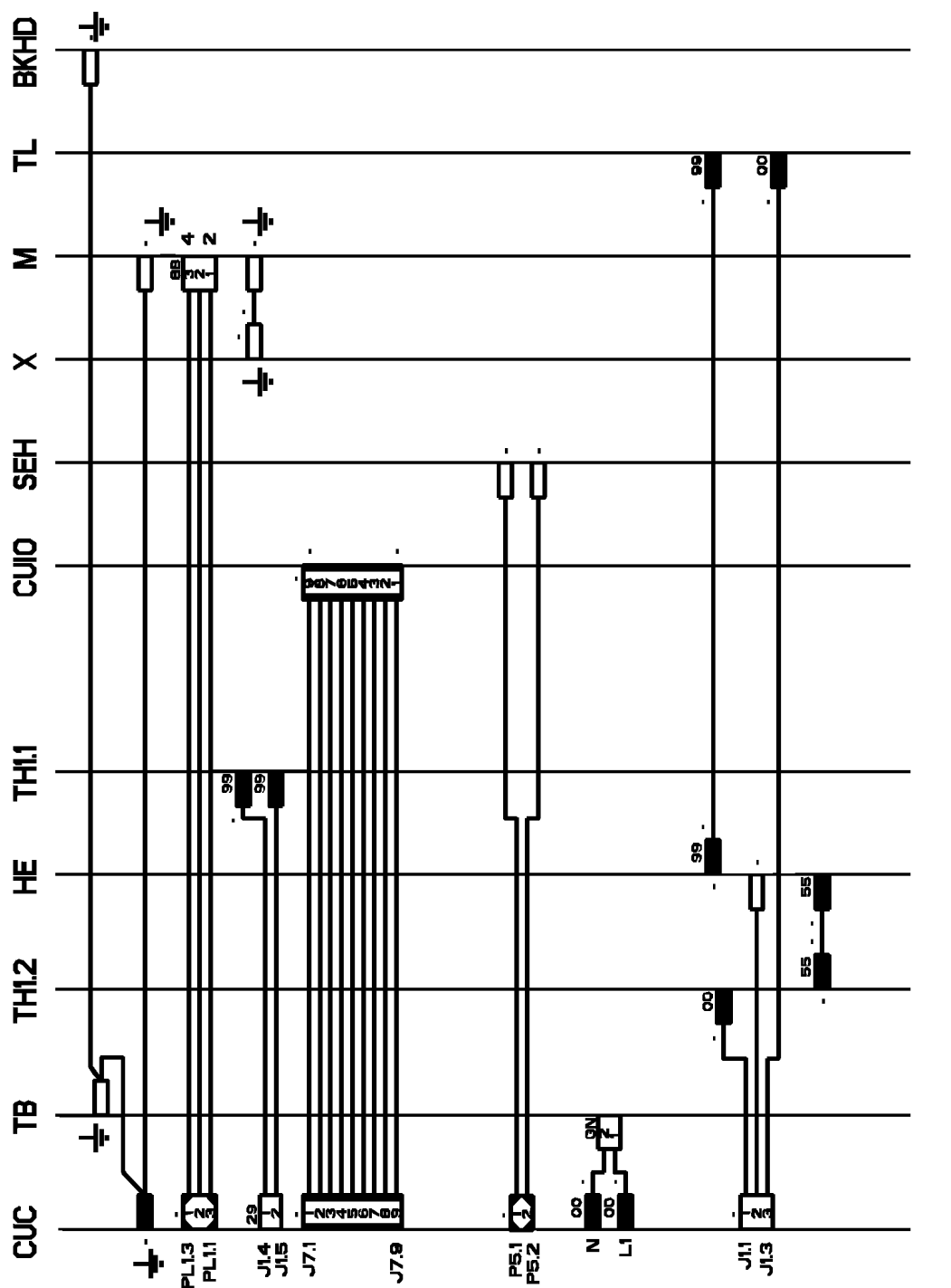


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Exploded view

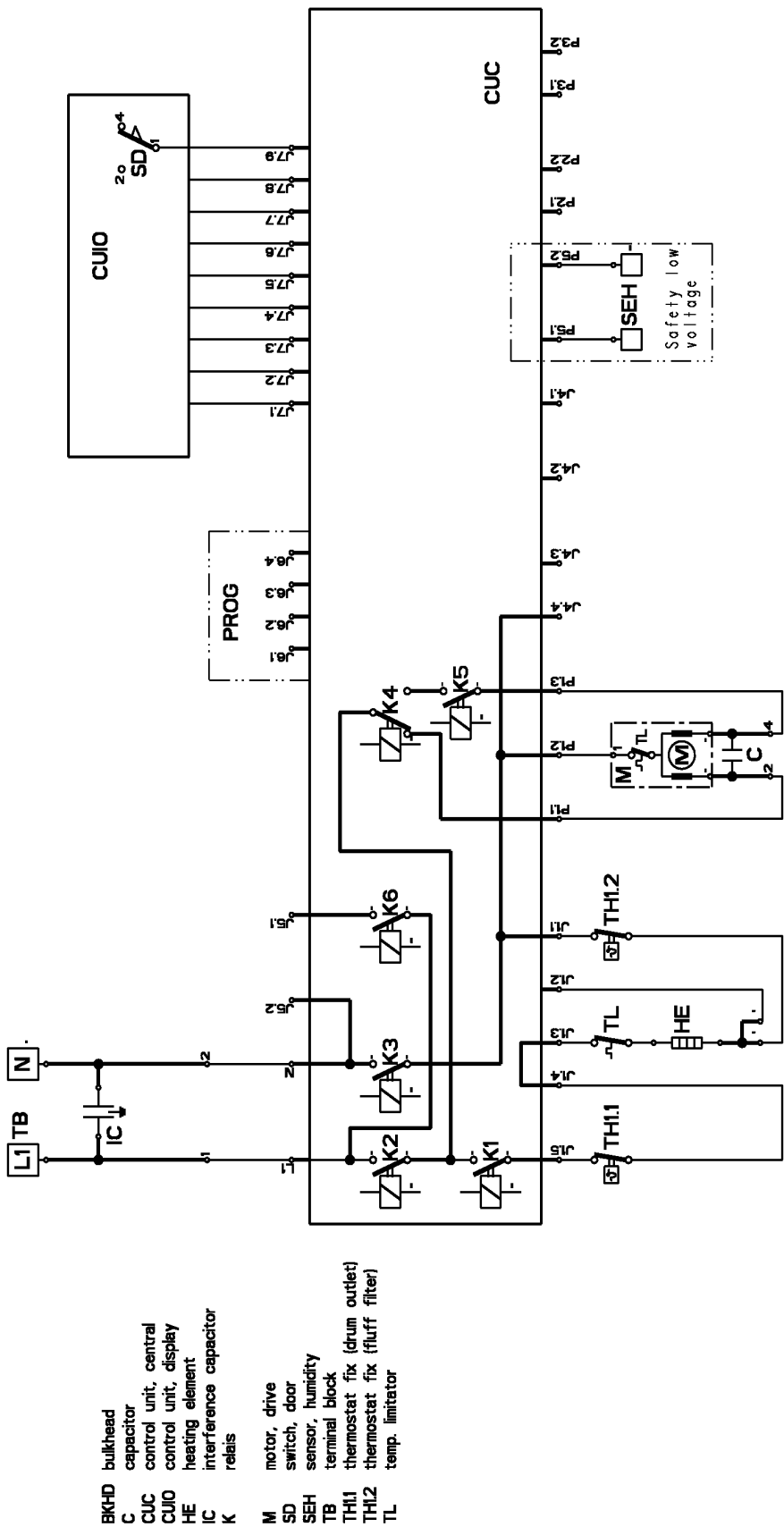


Wiring diagram



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Circuit diagram



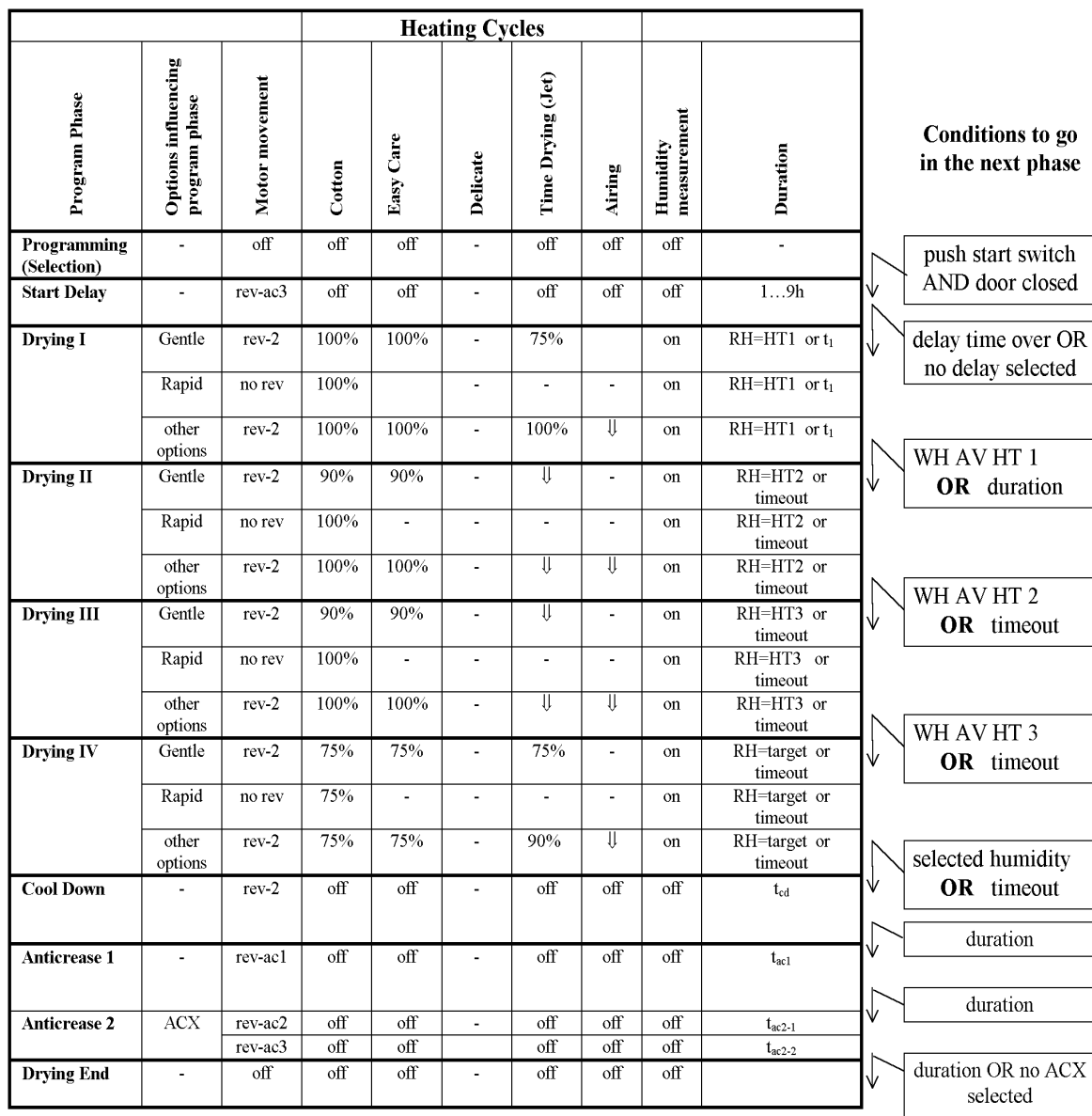
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Text/Legend

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Program Flow

Program flow WH AIRVENTED DRYER



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

Duration	
t ₁	40 min Cotton / 20 min Easy Care
timeout	60 min
t _{cd}	6 min
t _{ac1}	60 min
t _{ac2-1}	2 h
t _{ac2-2}	10 h

Reversing type	off (sec)	cw (sec)	off (sec)	ccw (sec)
rev-2	2	80	2	6
rev-ac1	2	80	2	6
rev-ac2	344	10	344	10
rev-ac3	704	10	704	10
no rev	0	90	0	0

Heater cycles	Heater on	Heater off
100%	90 sec	0 sec
90%	81 sec	9 sec
83%	75 sec	15 sec
75%	68 sec	22 sec

Text/Legend

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Program flow WH CONDENSE DRYER

			Heating Cycles							
Program Phase	Options influencing program phase	Motor movement	Cotton	Easy Care	Delicate	Time Drying (Jet)	Airing	Humidity measurement	Duration	Conditions to go in the next phase
Programming (Selection)	-	off	off	off	-	off	off	off	-	push start switch AND door closed
Start Delay	-	rev-ac3	off	off	-	off	off	off	1...9h	delay time over OR no delay selected
Drying I	Gentle	rev-2	100%	100%	-	78%		on	RH=HT1 or t ₁	WH CD HT 1 OR duration
	Rapid	no rev	100%	-	-	-	-	on	RH=HT1 or t ₁	
	other options	rev-2	100%	100%	-	100%	↓	on	RH=HT1 or t ₁	
Drying II	Gentle	rev-2	90%	90%	-	↓	-	on	RH=HT2 or timeout	WH CD HT 2 OR timeout
	Rapid	no rev	100%	-	-	-	-	on	RH=HT2 or timeout	
	other options	rev-2	90%	90%	-	↓	↓	on	RH=HT2 or timeout	
Drying III	Gentle	rev-2	78%	78%	-	↓	-	on	RH=HT3 or timeout	WH CD HT 3 OR timeout
	Rapid	no rev	100%	-	-	-	-	on	RH=HT3 or timeout	
	other options	rev-2	90%	83%	-	↓	↓	on	RH=HT3 or timeout	
Drying IV	Gentle	rev-2	67%	67%	-	78%	-	on	RH=target or timeout	selected humidity OR timeout
	Rapid	no rev	78%	-	-	-	-	on	RH=target or timeout	
	other options	rev-2	78%	83%	-	90%	↓	on	RH=target or timeout	
Cool Down	-	rev-2	off	off	-	off	off	off	t _{cd}	duration
Anticrease 1	-	rev-ac1	off	off	-	off	off	off	t _{ac1}	duration
Anticrease 2	ACX	rev-ac2	off	off	-	off	off	off	t _{ac2-1}	duration OR no ACX selected
		rev-ac3	off	off		off	off	off	t _{ac2-2}	
Drying End	-	off	off	off	-	off	off	off		

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

Duration	
t₁	40 min Cotton / 20 min Easy Care
timeout	60 min
t_{cd}	10 min
t_{act}	60 min
t_{ac2-1}	2 h
t_{ac2-2}	10 h

Reversing type	off (sec)	cw (sec)	off (sec)	ccw (sec)
rev-2	2	80	2	6
rev-ac1	2	80	2	6
rev-ac2	344	10	344	10
rev-ac3	704	10	704	10
no rev	0	90	0	0

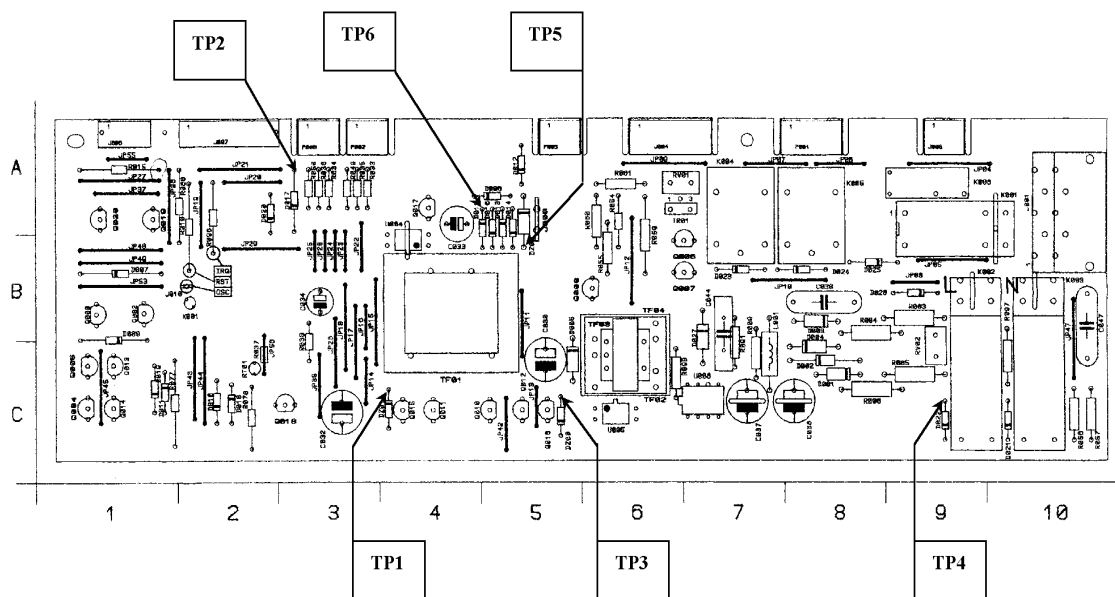
Heater cycles	Heater on	Heater off
100%	180 sec	0 sec
90%	162 sec	18 sec
83%	150 sec	30 sec
78%	140 sec	40 sec
67%	121 sec	59 sec

Text/Legend

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Testpoints at central board

WH AV, WH CD WCT and WH CD WCB



Test-Voltages:

TP1 (at DZ01, cathode)	Vcc
TP2 (at D017, anode)	-5 V (+/-10%) to Vcc, if User Interface switched on -0,2 V to Vcc, if User Interface switched off
TP3 (at DZ03, anode)	-12 V (+/-10%) to Vcc
TP4 (at D022, anode)	-12 V if door switch closed -1,8 V if door switch open
TP5 (at DZ02, anode)	GND
TP6 (at D015, cathode)	-24 V (+/-10%) to GND, if door closed and drying program started

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

- Close door of the dryer or block door switch
- Rotate program selector to position „Airing“
- Press and release option button **OPT1** („Gentle“) three times within 5 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.

Leaving the Test Mode

The TEST MODE is terminated by:

- Push Start Button
OR
- Interrupt of the mains supply for a minimum time of 60 sec.
OR
- Open door
OR
- Turn rotary selector
OR
- Last step of test program is reached and button OPT2 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‘
Display (7-segment, DIGITS2)	Indication of test step acc. table ,indication‘
LEDs around knob (PRG1...PRG11)	Indication of test step acc. table ,indication‘
Buzzer	Beeps when button OPT1 („Gentle“) is pushed

Indication

Indicator	Test Program Step								
	Step 1>>	Step2>>	Step3>>	Step4>>	Step5>>	Step6>>	Step7>>	Step8>>	Step9
Program LEDs around knob**	PRG1	PRG2	PRG3	PRG4	PRG5	PRG6	PRG7	PRG10	PRG11
LED PS2 (Drying)	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON
LED PS3 (Cool Down)	OFF	ON	OFF	OFF	ON	OFF	OFF	ON	ON
LED PS4 (End)	OFF	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
LED PS5 (Anti Crease)	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
7 segment display	,1‘	,2‘	,3‘	,4‘	,5‘	,6‘	,7‘	,8‘	last error

**PRG_X = ON

Text/Legend

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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 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

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	4 sec	8 sec	4 sec	2 sec	4 sec	2 sec
WH CD WCB	4 sec	8 sec	4 sec	2 sec	4 sec	2 sec
WH AV	3 sec	8 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	10 sec	16 sec	10 sec	3 sec	10 sec	3 sec
WH CD WCB	10 sec	16 sec	10 sec	3 sec	10 sec	3 sec
WH AV	10 sec	11 sec	10 sec	3 sec	5 sec	3 sec

Text/Legend

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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 indicate 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

Max. Duration: 10 min

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)