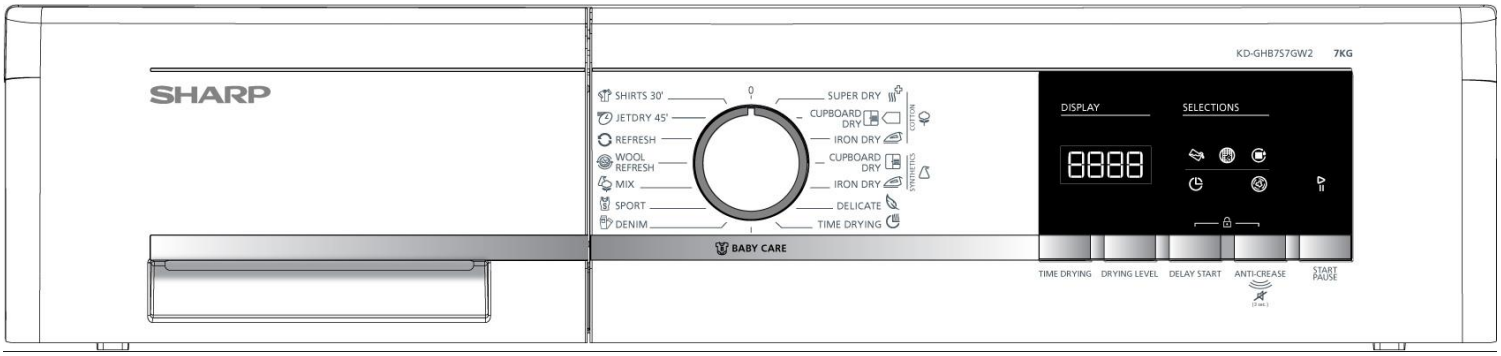
SECHE LINGE POMPE A CHALEUR

MANUEL DE SERVICE

BANDEAU F4 FRAME

4. CONTROL PANEL AND PROGRAM SELECTION TABLE

4.1. Control Panel



Display Symbols

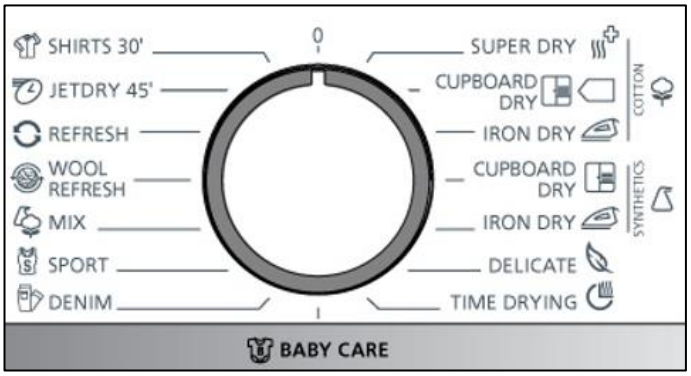
Water tank warning indicator	
Lint filter cleaning warning indicator	
Heat exchanger cleaning warning indicator	

Drying Stages Indicator

Drying	
Cooling	
End	

4.2.Program List

KNOB POSITION	PROGRAM
1	Cotton Extra Dry
2	Cotton Cupboard Dry
3	Cotton Iron Dry
4	Synthetics Cupboard Dry
5	Synthetics Iron Dry
6	Delicate
7	Time Drying*
8	Baby Care
9	Jeans / Duvet (for 8-9 kg)
10	Sport
11	Mix
12	Wool Refresh
13	Refresh
14	Express 45 ’
15	Shirts 30 ‘
16	OFF



***The machine has humidity sensor that detects whether the laundry dry or not. At the programs that work with humidity sensor laundry does not dry in fixed time. Duration is constantly updates according to humidity data taking from laundry.

***Time Drying Program:** Humidity sensor is deactivated. The program ends when the time is up, without checking the humidity of the laundry.

***Express 45'/ Shirts 30 ':** Humidity sensor is activated. The program time may extend, if the customer use different laundry according to the load in the program description.

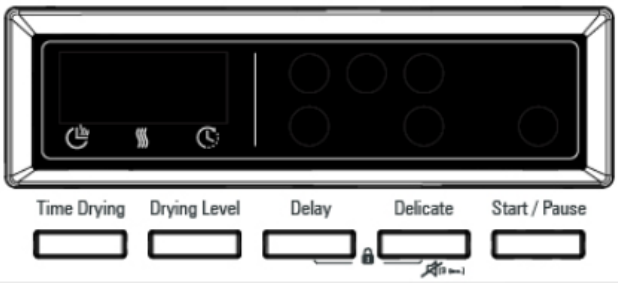
Express 45' : 2 kg of cotton shirts spun at a high speed in the washing machine are dried in 45 minutes.

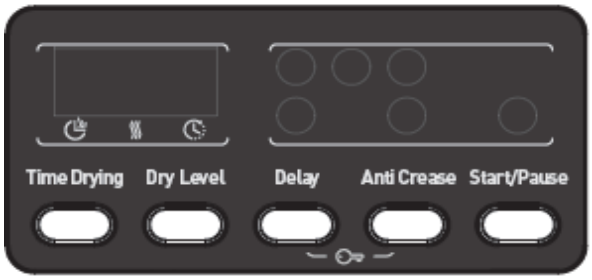
Shirts 30' : 2 to 3 shirts are ready for to be ironed in 30 minutes.

***Delicate:** Delicate fabrics are dried for a longer time at a low temperature.

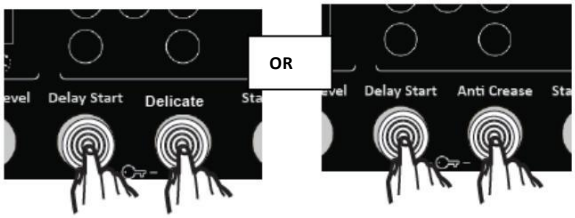
***Wool Refresh / Refresh:** Compressor is deactivated. The air is not heated.

- **4th button can be Delicate or Anti crease according to product**





4.3. Children's Safety



There is a child lock option to avoid changes in the program flow when keys are pressed during the program.

There is 2 panels version which is Delicate or Anti Crease .To activate child lock;

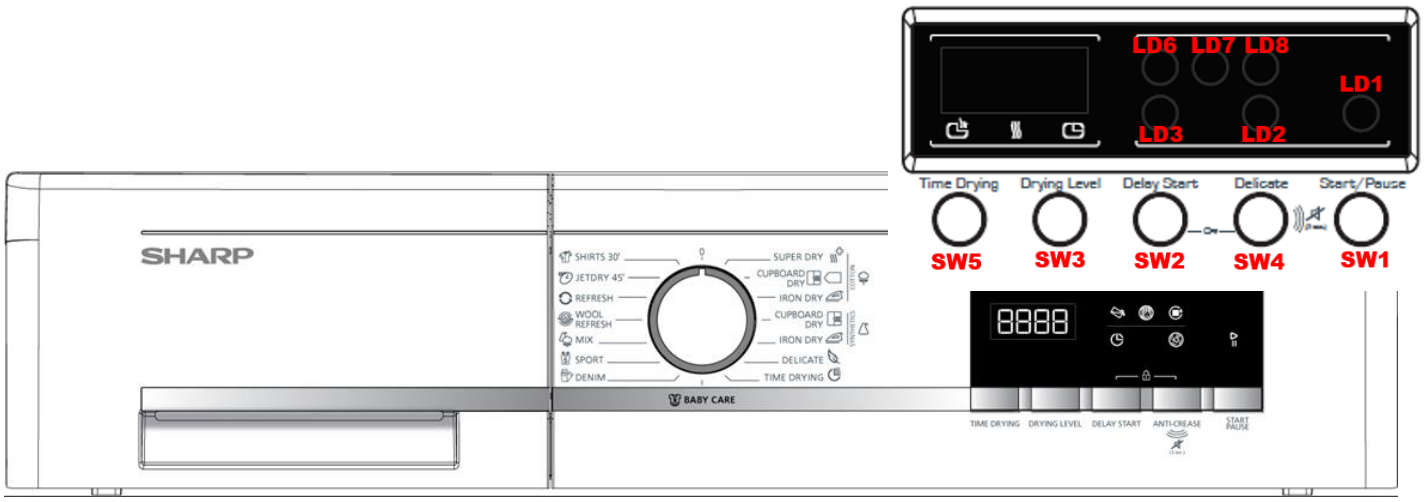
If It is Anti Crease panel, press and hold "Delay Start" and " Anti-Crease " keys simultaneously for 3 seconds.

If It is Delicate panel, press and hold "Delay Start" and "Delicate" keys simultaneously for 3 seconds

When the child lock is active, all keys will be deactivated. Child lock will be deactivated automatically at the end of the program. When activating/deactivating the child lock, the leds of the "Anti-Crease" Drying" options will flash and an audible warning will be heard.

5. FAILURE MODES AND SERVICE AUTOTEST

***Service auto test must be run for every service call.



5.1. Failure Modes and Warning Leds

F4/F4T HEAT PUMP MODEL ERROR CODES	
ERROR CODE	**REASON**
E00	F4 Touch UI board doesn't receive communication from mainboard
E03 /	Aquaswitch connector is disconnected
E04	Compressor connector is disconnected
E05	Compressor NTC connector is disconnected
E06	Door NTC connector is disconnected
E07	Motor connector is disconnected, motor is locked
E08	Voltage fluctuation

Notes For Service autotest:

*Service can not pass the current step before completing the minimum duration

*When minimum duration for each step (5 sec) is completed, filter led makes **slow blink** to indicate that service can pass the next step

*For error codes, leds must make **fast blink**

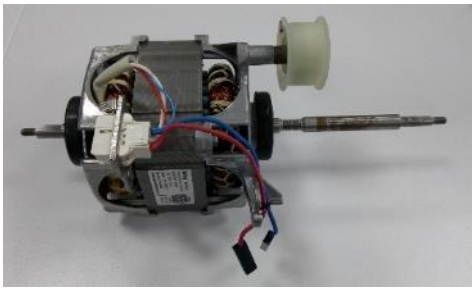
5.2. Service Autotest Steps

STEPS	Control		Possible Errors
The Routine to Enter Servis Autotest	While pushing **SW2** button for 5 sec, position knob to Program 1. Then press Start/Pause button. Machine enters to service autotest. For F4: When machine enters service autotest, SAU becomes fix on for 2 sec and all warning leds make fast blink for 2 sec and then becomes fix off Machine shows the last error saved by machine. If there is no error, "---" visualise on the display When knob positioned to program 2, control steps starts.		
Step 2 (Knob Position 2)	Dryer check Aquaswitch, if aquaswitch ON go to next step (pump activation), if aquaswitch OFF give water tank full error	E03	*Aquaswitch connector is taken out *Aquaswitch connector is short circuit *Styrofoam is borken or not
Step 3 (Knob Position 3)	Pump is on	-	Service must pour water to pump reservoir and check whether water is pumped to tank. If water is not pumped to water tank; *Pump connector is taken out
Step 4 (Knob Position 4)	Motor CCW (Tumble CW)-Motor stops	-	Service must check whether tumble is moving to CW. If not; *Motor connector is taken out *Motor might be locked *Motor belt might be dislocated
Step 5 (Knob Position 5)	Motor CW (Tumble CCW) -Motor stops	-	Service must check whether tumble is moving to CCW *If tumble is moving to CW again, then motor relay short circuit CCW
Step 6 (Knob Position 6)	Check Compressor NTC if heater NTC T=255	E05	*Compressor NTC connector is taken out or short circuit
Step 7 (Knob Position 7)	Check Door NTC if heater NTC T=255	E06	*Door NTC connector is taken out or short circuit
Step 8 (Knob Position 8)	Compressor OFF- Motor CCW (Tumble CW) OFF- Cooling fan ON	-	Service must check power of at the home voltage and fan will be controlled manually by technical service.
Step 9 (Knob Position 9)	Compressor ON- Motor CCW (Tumble CW) Motor OFF	-	Service must check power of at the home voltage.
Step 10 (Knob Position 10)	Check conductivity sensor when door is opened and motor is off	E01	Service puts his hand on the humidity sensor plates and software checks sensor data *If sensor data=0, humidity sensor connector is taken out

7. 7. COMPONENT SPECIFICATIONS AND MEASUREMENTS

7.1. Motor

The dryer has an asynchronous motor. In the photo on the right, the socket on the motor are shown to be measured by multiple counters. It is driven with triac via the electronic card (to give energy) and relay (for direction control).



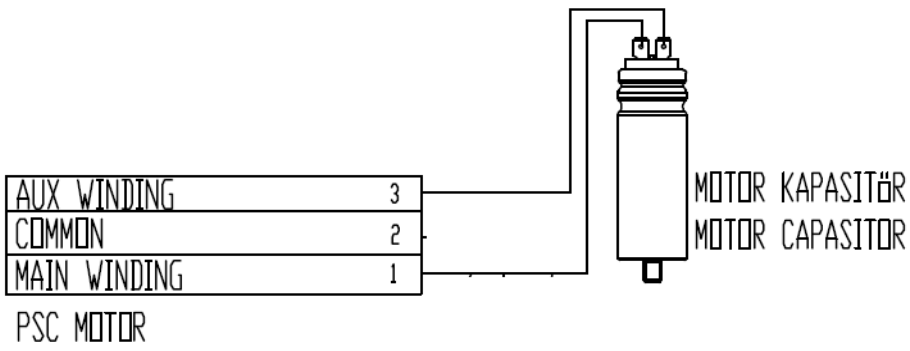
Technical Features

Type: single-phase asynchronous motor	Motor speed : 2750 rpm (Unloaded drum)
Power: 200 W (Unloaded drum)	Drum speed : 52 ± 2
Main windings: 21.5±7% (20 °C temp.)	Capacitor value : 11 µF ± %5
Aux windings: 19.5±7% (20 °C temp.)	

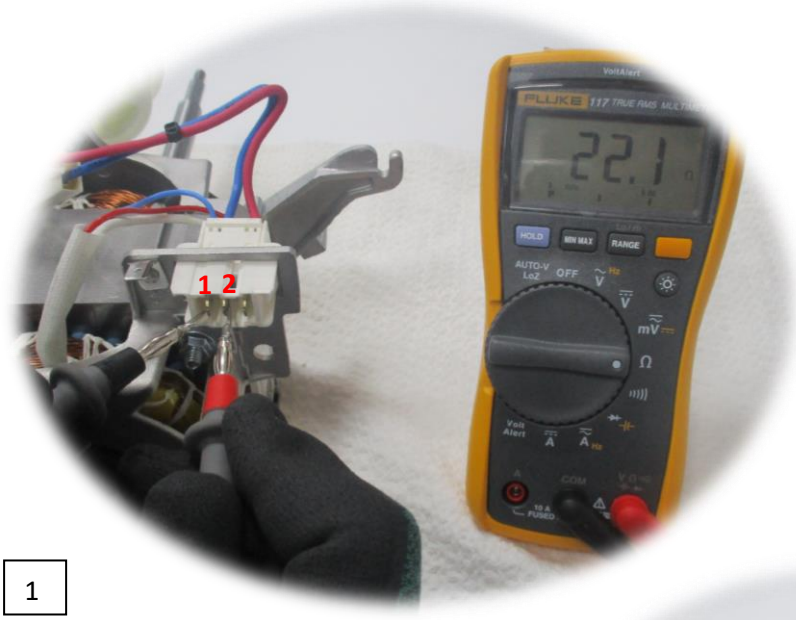
Component Test

- Check whether the motor cable is connected to the motor connector.
- Check the connection of the capacitor cables
- Measure the resistance values and check the capacitor values
- Check whether it is working by connecting via the terminals 1 and 2 (Blue-White) connection
- If it is working, revolution of the drum is measured in unloaded state.

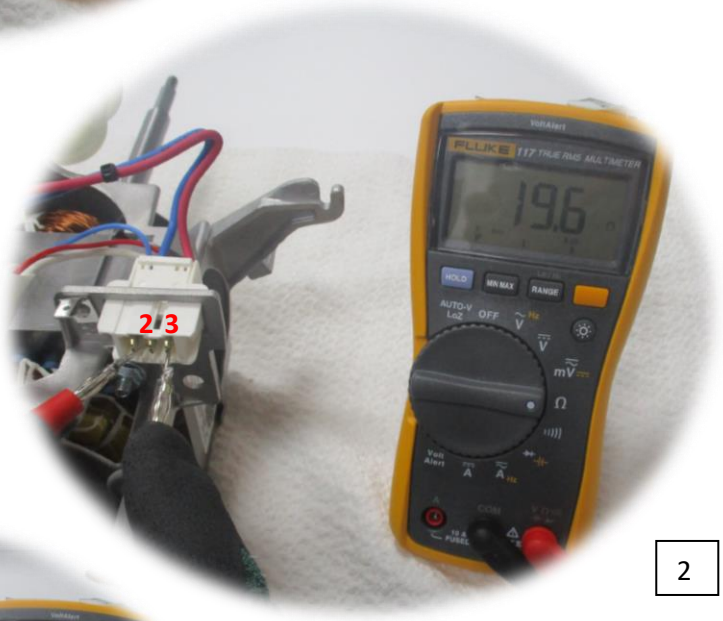
The terminals 1-3 of the motor should be connected with capacitor
Resistance measurement of main winding: Terminal 1 -2 (Blue-White) is measured.
Resistance measurement of aux winding: Terminal 3 -2 (Red-White) is measured.



7.1.1. Motor Measurements



1



2

3

7.2. Pump

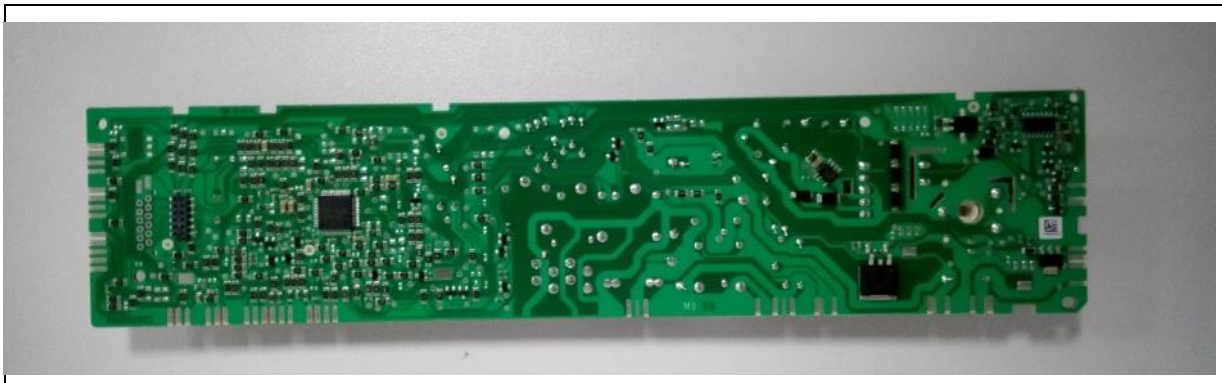
In Tumble Dryer models, the pump is used to transport the water that accumulates in the condensation chamber to tank in the drawer area. One triac is measured on the electronic card.	
Technical Features	
Resistance : 764±10% ohm Voltage: 220-240 Volt Frequency: 50 Hz	Input Power : 13W max
Component Test	

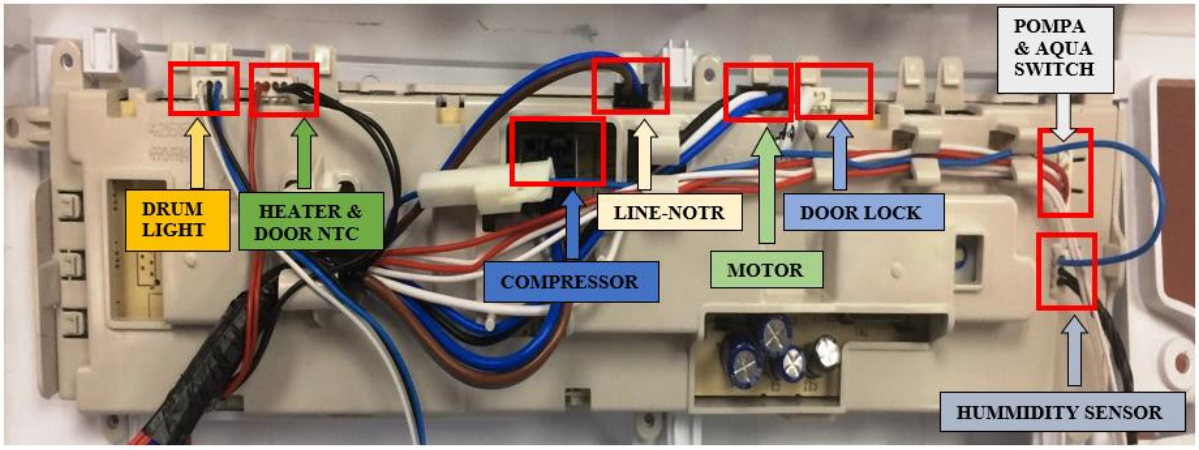
- Check the connection of the pump connector
- Check the pump resistances
- Check whether pump is working, by feeding externally
- If the pump is working, the water in the tank is unloaded by running the pump Then, Unload 500 ml of water from water tank to pump reservoir and check whether water is pumping.
- While pump is working, if water is not reached into water tank, hoses should be checked.

7.2.1 Pump Measurements

1

7.3. Electronic Card





Technical Features

Electronic card is single sided printed circuit board and CEM-1 material

The upper picture shows where the components sockets are inserted.

7.4. Door/Compressor NTC Sensor

Two NTC sensors are used. The NTC resistance decreases when the temperature rises.

Technical Features

Door NTC Resistance : 12 kΩ (Measured from IDC connected to electronic card)
Compressor NTC Resistance : 12 kΩ (Measured from IDC connected to electronic card)

Component Test

- Resistance is measured from IDC connected to electronic card

7.4.1. Door NTC Sensor Measurements

7.5. Compressor

The dryer has an compressor with an asynchronous motor. In the photo on the right, the terminal on the compressor are shown to be measured by multiple counters. It is driven with relay via the electronic card (to give energy) and relay drive the compressor only one direction.

Technical Features

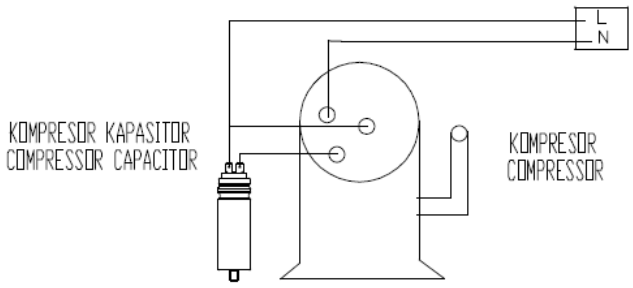
Type: single-phase asynchronous motor
Power: 350 W (Unloaded drum)
Main windings: 9.3±7% (25 °C temp.)

Aux windings: 8.75±7% (25 °C temp.)
Motor speed : 2928 rpm (Unloaded)
Gas Type: R290
Capacitor value : 20 µF ± %5
Compressor Capacity: 7.8 cm^3/rev

Component Test

- Check whether the compressor cable is connected to the compressor terminal.
- Check the connection of the capacitor cables
- Measure the resistance values and check the capacitor values
- Check whether it is working by connecting via the terminals S,R and C connection
- If it is working, start the machine and check the drum temperature.

The terminals S and R of the motor should be connected with capacitor.
Resistance measurement of main winding: Terminal C-R is measured.
Resistance measurement of aux winding: Terminal C-S is measured.



7.5.1. Compressor Measurements

1

2

3

7.6. Door Latch

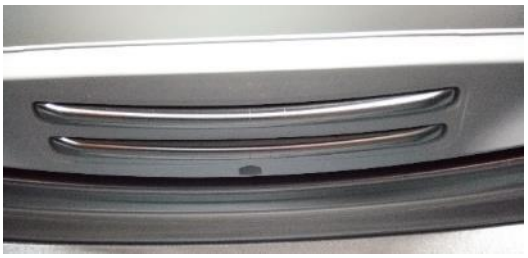
Door latch locks when the door is closed. It's designed to be opened from inside, in case of children are in the drum	

Component Test

- When the door is closed, check whether there is electrical transmission from IDC connected to electronic card
- Check the connection of the component connector

7.6.1 Door Latch Measurements

7.7. Humidity Sensor

The Humidity Sensor measures the amount of dryness of the laundry in the drum.	

Component Test

- Each humidity sensor plate is checked whether there is electrical transmission from IDC connected to electronic card.
- Check the connection of the component connector

7.7.1 Humidity Sensor Measurements

7.8. Cooling Fan

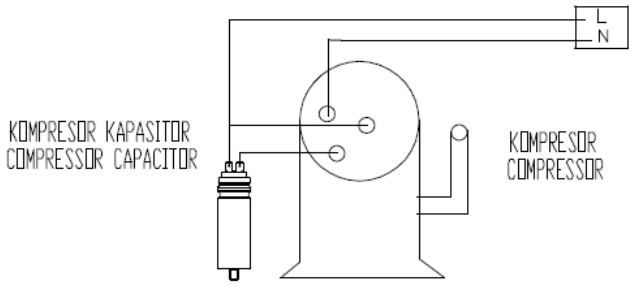
The dryer has an cooling fan with an asynchronous motor. In the photo on the right, the terminal on the compressor are shown to be measured by multiple counters. It is driven with triac via the electronic card (to give energy)

Technical Features

Type: single-phase AC fan
Power: 28 W
Main windings: 600±7%
Motor speed : 2600/3000 ±10%

Component Test

- Check whether the cooling fan cable is connected to the fan terminal.
- Measure the resistance values

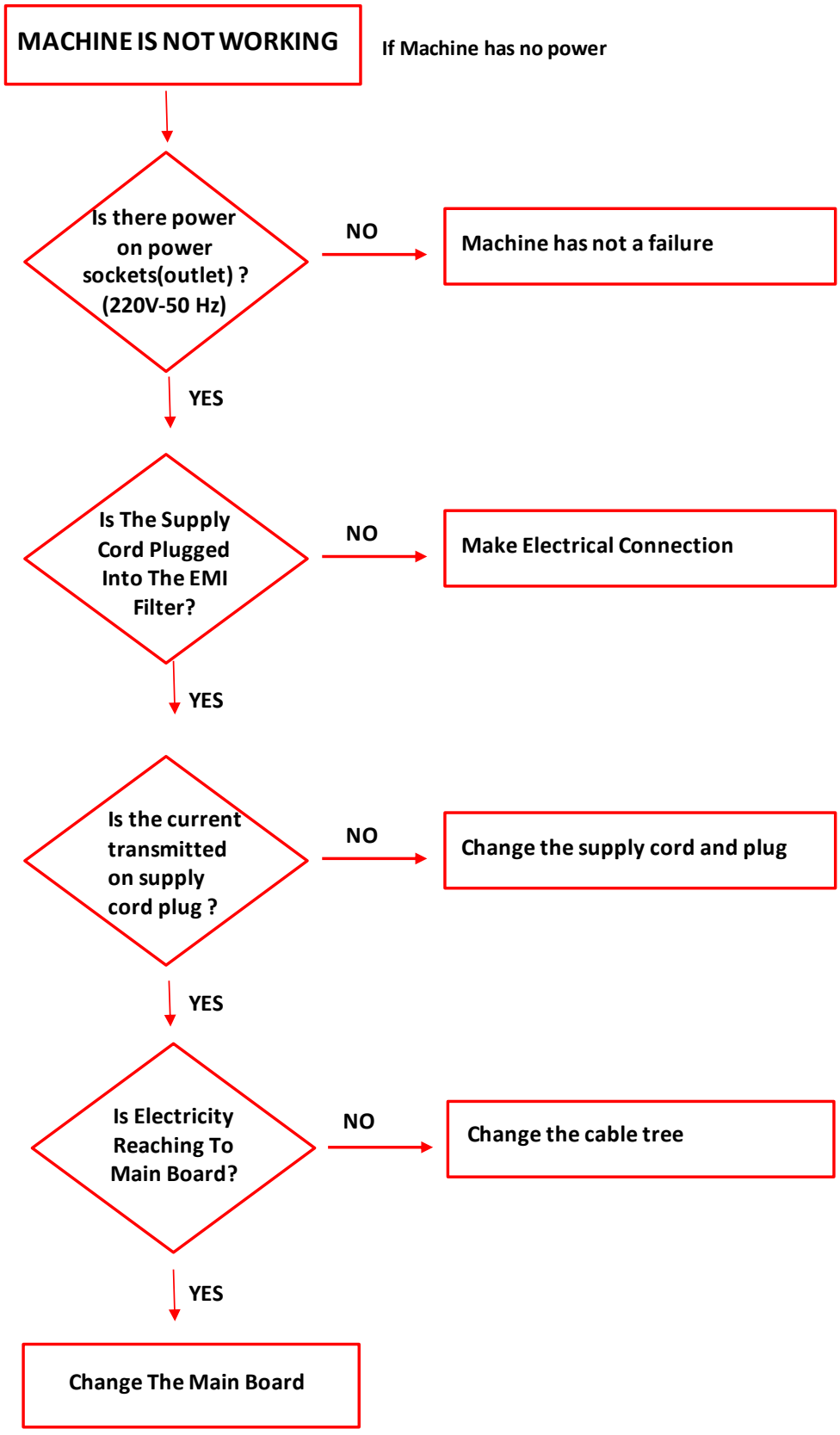


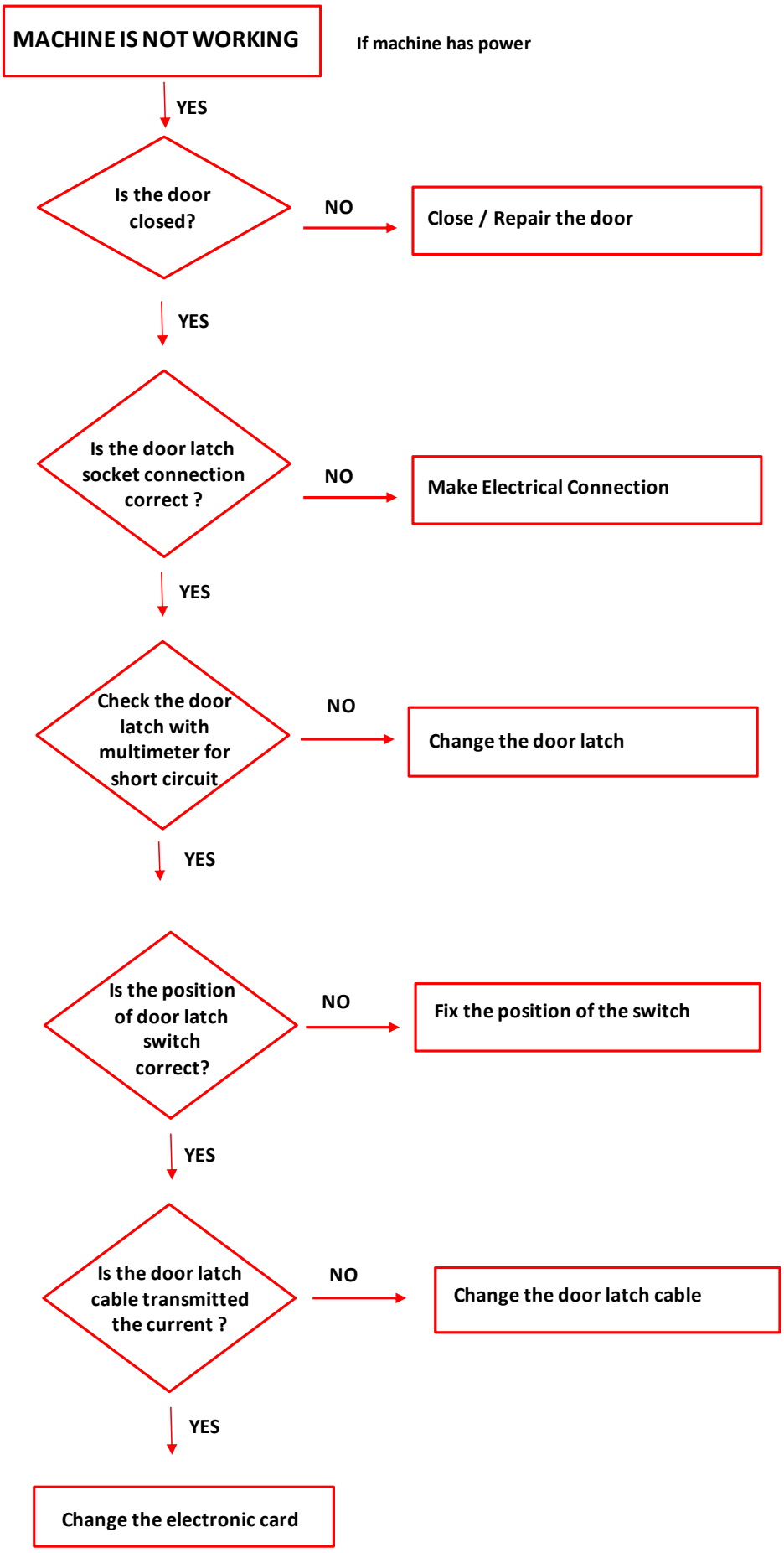
7.8.1. Cooling Fan Measurements

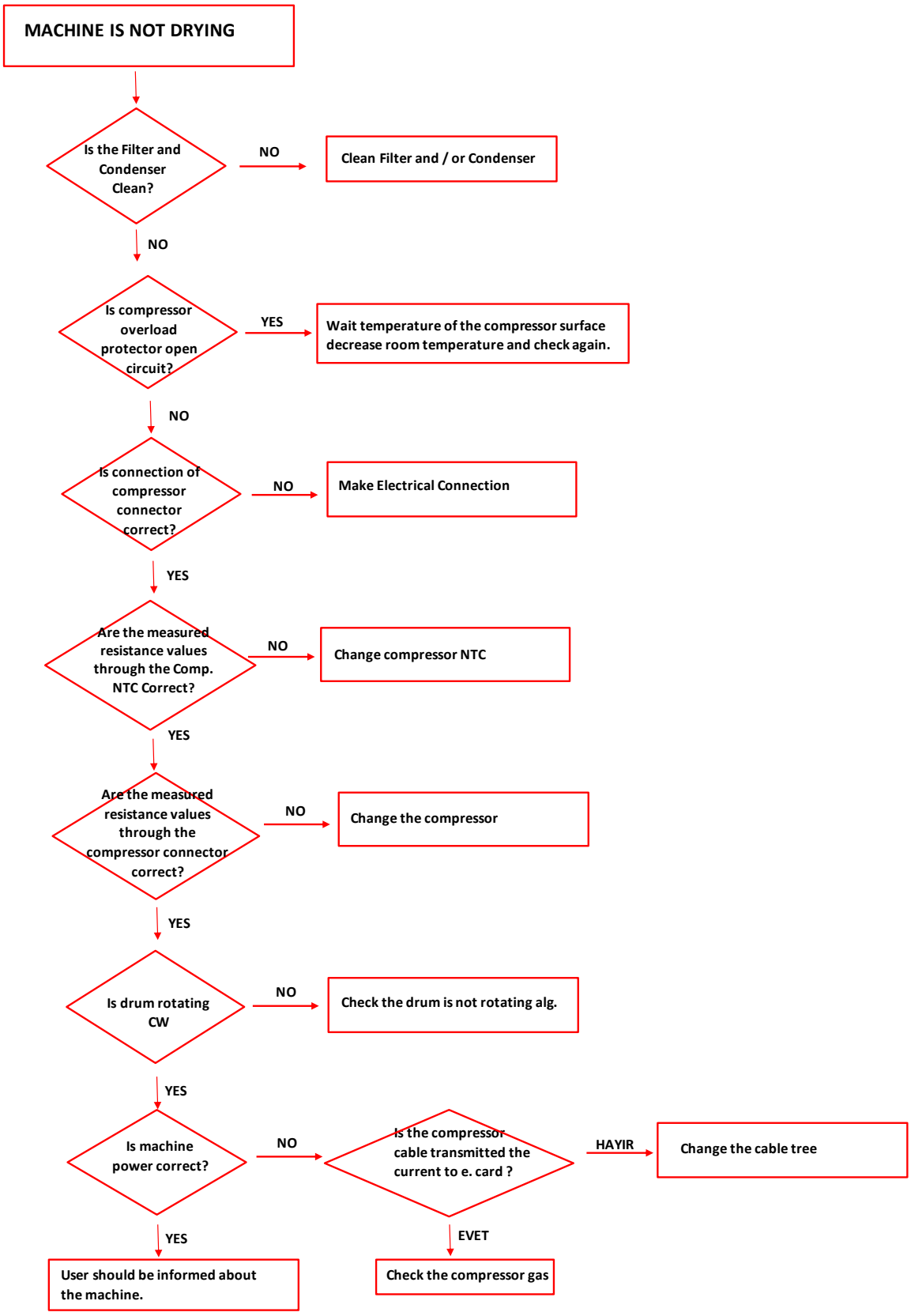
7.9. Drumlight

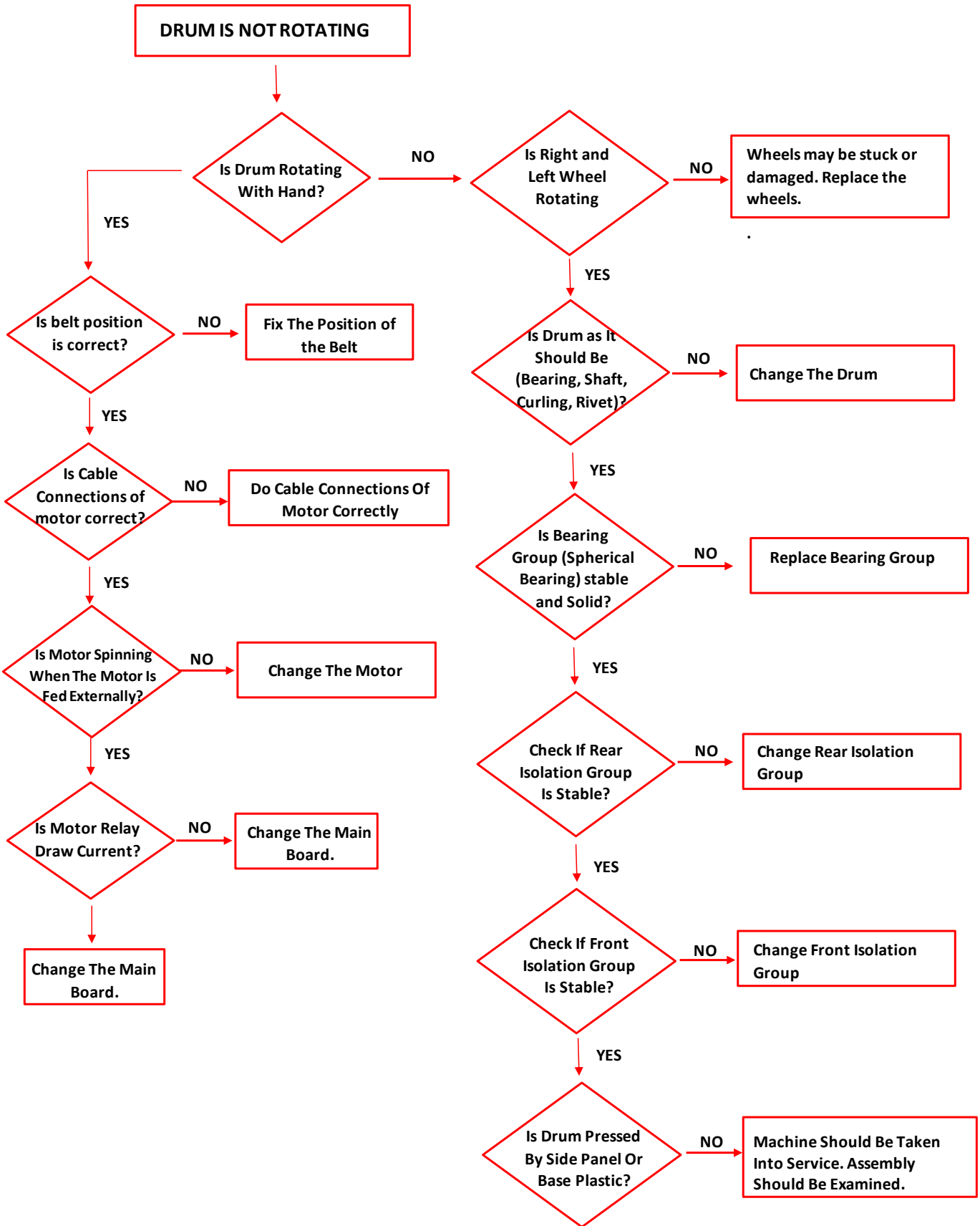
Drumlight lights inside of the drum	
Component Test	
Check whether there is electrical transmission from IDC connected to electronic card.	

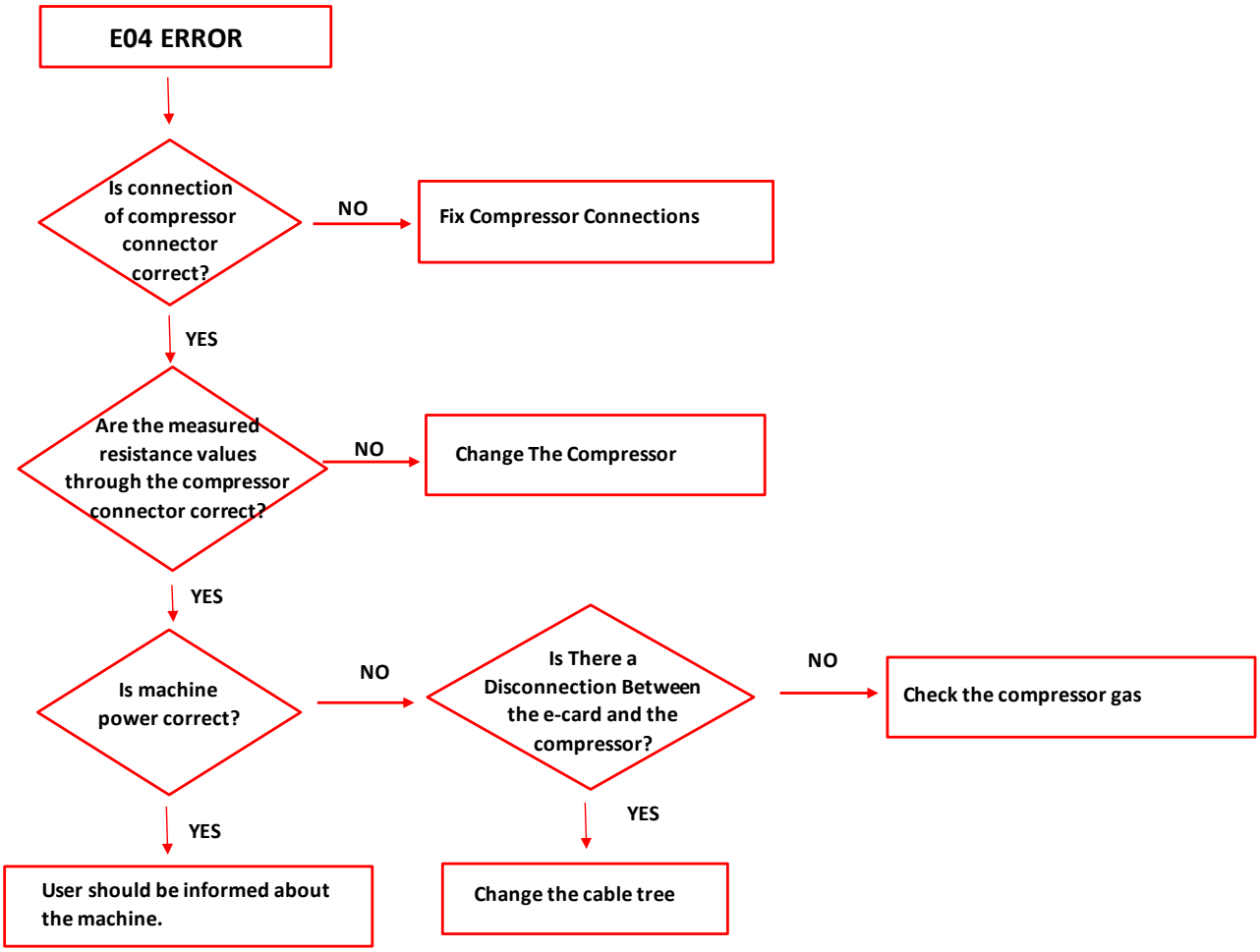
8. TROUBLESHOOTING

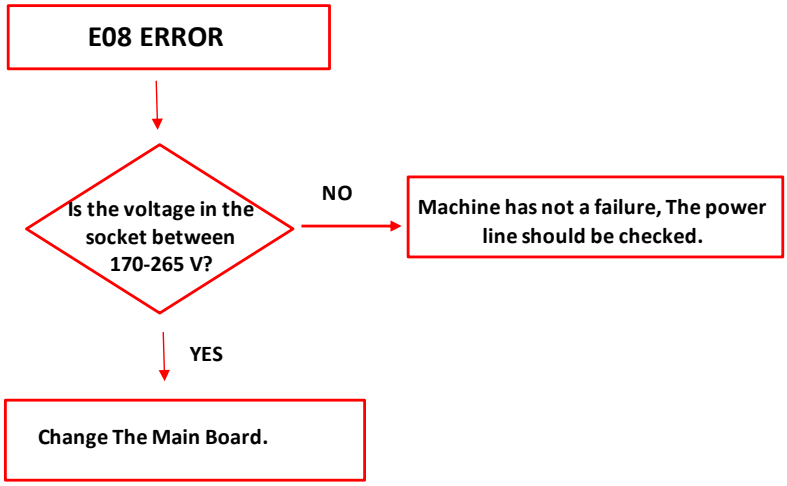



MACHINE IS NOT WORKING
If machine has power
YES
Is the door closed?
NO
Close / Repair the door
YES
Is the door latch socket connection correct ?
NO
Make Electrical Connection
YES
Check the door latch with multimeter for short circuit
NO
Change the door latch
YES
Is the position of door latch switch correct?
NO
Fix the position of the switch
YES
Is the door latch cable transmitted the current ?
NO
Change the door latch cable
YES
Change the electronic card


MACHINE IS NOT DRYING
Is the Filter and Condenser Clean?
NO
Clean Filter and / or Condenser
NO
Is compressor overload protector open circuit?
YES
Wait temperature of the compressor surface decrease room temperature and check again.
NO
Is connection of compressor connector correct?
NO
Make Electrical Connection
YES
Are the measured resistance values through the Comp. NTC Correct?
NO
Change compressor NTC
YES
Are the measured resistance values through the compressor connector correct?
NO
Change the compressor
YES
Is drum rotating CW
NO
Check the drum is not rotating alg.
YES
Is machine power correct?
NO
Is the compressor cable transmitted the current to e. card ?
HAYIR
Change the cable tree
YES
EVET
User should be informed about the machine.
Check the compressor gas


DRUM IS NOT ROTATING
Is Drum Rotating With Hand?
NO
Is Right and Left Wheel Rotating
NO
Wheels may be stuck or damaged. Replace the wheels.
YES
YES
Is belt position is correct?
NO
Fix The Position of the Belt
Is Drum as It Should Be (Bearing, Shaft, Curling, Rivet)?
NO
Change The Drum
YES
YES
Is Cable Connections of motor correct?
NO
Do Cable Connections Of Motor Correctly
Is Bearing Group (Spherical Bearing) stable and Solid?
NO
Replace Bearing Group
YES
YES
Is Motor Spinning When The Motor Is Fed Externally?
NO
Change The Motor
Check If Rear Isolation Group Is Stable?
NO
Change Rear Isolation Group
YES
YES
Is Motor Relay Draw Current?
NO
Change The Main Board.
Check If Front Isolation Group Is Stable?
NO
Change Front Isolation Group
YES
YES
Change The Main Board.
Is Drum Pressed By Side Panel Or Base Plastic?
NO
Machine Should Be Taken Into Service. Assembly Should Be Examined.


E04 ERROR
Is connection of compressor connector correct?
NO
Fix Compressor Connections
YES
Are the measured resistance values through the compressor connector correct?
NO
Change The Compressor
YES
Is machine power correct?
NO
Is There a Disconnection Between the e-card and the compressor?
NO
Check the compressor gas
YES
User should be informed about the machine.
YES
Change the cable tree


E08 ERROR
Is the voltage in the socket between 170-265 V?
NO
Machine has not a failure, The power line should be checked.
YES
Change The Main Board.