Cornelius

Water Treatment

Instruction Manual

14 1888 124 - 07/99 - **Version A**

Please keep these operating instructions in a safe place.

Dear Customer:

Check this product for visible damage immediately upon receipt. Inform the shipper if there is any shipping damage. Note that damage resulting from improper handling or operation is not covered under the warranty.

Before putting the unit into operation:
Read all the operating instructions carefully.
Familiarize yourself with all controls.
Ask the service company installing the unit to write its address down here for any subsequent repairs, emergencies, etc.

Address of your technical service company:

Name: .....

City: .....

Street address: .....

Telephone: .....

Contact person: .....

Table of Contents

1. Introduction

Our foremost aim is to produce a quality product. If you should encounter any difficulty which these operating instructions do not help you with, call or write us. We will be glad to be of assistance. If you write, please include the model and serial number of the unit.

Our address:

IMI Cornelius Deutschland GmbH
Carl-Leverkus-Strasse 15
D-40764 Langenfeld, Germany
Tel. 0(xx49) 2173 793-0
Fax: 0(2173) 2173 77438

2. Safety Regulations

2.1 General Safety Regulations

This unit is of leading-edge design and manufacture. If used and maintained in accordance with these operating instructions, it will be safe to operate. Please comply with the following safety instructions to avoid hazards and damage.

The unit must be in satisfactory condition whenever operated. Any modifications determinental to the safety of the unit are therefore strictly prohibited. Please contact your service company, if you wish to obtain more information about safety.

No safety devices (such as safety valves, overload protection units, etc.) are to be removed, modified or put out of commission (risk of injury or death!).

Take care that only authorized persons work on the unit and that the operators are trained. Make certain that no unauthorized persons change the settings on the unit or tamper with it.

You are obligated to check the unit on a daily basis for externally discernible damage and defects. Immediately report modifications which affect safety and function to the service company nearest you.

Note that only original CORNELIUS replacement parts and accessories which have been checked and approved are to be used. IMI Cornelius Deutschland GmbH assumes no liability whatsoever for damage resulting from the use of non-original parts and accessories or from improper handling.

2.2 Safety Instructions Electricity

An electric shock may be fatal or result in serious injury. For this reason, any unauthorized tampering is strictly prohibited. Water and electricity are a fatal mixture.

Always pull out the mains plug before any cleaning or service work on or near the unit. As delivered, it features a moulded earthing-pin plug and it must be connected to a socket outlet with an earthing contact. If no appropriate socket outlet with an earthing contact is available, the connection must be made by authorized persons only, with the regulations applicable at the installation site (EN 60335-1 in Europa, for example) being observed.

3. Installation Requirements

3.1 Installation Sites

Comply with the valid national regulations for installation sites and electrical connections. Ventilation of the installation sites must be appropriate proper work. Inadequate ventilation of the unit will result in hot water output. Always make certain that no intake or discharge vents are covered or blocked.

Air flow in m^3/hour	200

3.2 Electrical Connections

A socket outlet with an earthing contact featuring a maximum protection of 16 amps is required.

The line voltage must always be within following tolerances: 230 VAC +6%/-10% / 50 Hz

Power consumption in watts	1100

4. Installation

The device must be installed by a trained service technician.
Please take care, that the socket for the unit is always accessible.
If the power supply cable to the unit is damaged, it has to be replaced by the manufacturer, the service partner or any other qualified person to avoid safety hazard.
For installing the unit, the Installation Kit should be used.

4.1 Water Connection

Connecting only to drinkable water

Connect the unit to a feed line with an inner diameter of 8 mm minimum. The water flow pressure should be 1.5 bar (if nessecary mount a control pressure gauge).

4.2 Drain Connection

Using tubing with an inner diameter of 6 mm minimum, connect the drain to the corresponding outlet of the unit. In the case of service, the drain flow is about 1.5 l/min.

4.3 Connecting product water

The unit is designed for using a special Bag-in-Box (BIB) system. Connect the tube of the installation kit to the BIB. Make sure, that the connection is correctly pressed into the BIB connector.
Insert the switches for level control in the red box and connect the four pin plug to the unit.

5. Putting into and out of Service

5.1 Putting into Service

Clean the BIB connectors every time before you attach an new bag.

Open the water feed line and check the minimum flow pressure in it. Minimum value: 1.5 bar.

Check the water lines for leaks. Only a visual inspection is possible.

5.2 Turning On the Unit

Insert the main plug for the unit into the socket outlet with an earthing contact.

After approximatly 2 minutes the unit is filled with water and starts heating up. Now the green LED is on and the yellow one is flashing.
After 30 minutes steam and condensing water is in the drain. A few minutes later the unit is producing product water.

5.3 Daily Inspection

Check that the water line is open.

Check the water support and product water lines for leaks. Only a visual inspection is possible. If liquid appears, call a service technician.

Check the LED´s. All LED lights except the red or permanently yellow LED are no indicators for failures. Otherwise service is needed.

5.4 Putting out of Service

Perform the following steps in case of extended standstill periods:
Press the white sevice button for cooling the unit down.
Wait, until the cartridge temperature is below 50°C and all 3 LED´s are flashing.
Close the water feed line.
Pull the mains plug out of socket outlet with earthing contact.
Disconnect the connectors from BIB.

6. Instructions for Cleaning and Maintenance

6.1 Instructions for Cleaning

Comply with the valid national regulations for cleaning bar equipment at the particular installation site.

Clean the BIB connection parts.

6.2 Instructions for Cartridge Change

If the red LED is on, the unit needs maintenance because of a full cartridge.
In this case press the white sevice button.The 3 LED´s show running light. The inlet valve opens und the cartridge is flushed with cold water. The hot water runs into the drain. If the cartridge temperature is below 50°C, all 3 LED´s are flashing. **Bevor opening the unit, pull the main plug out of socket outlet with earthing contact.**
Change the cartridge and close the unit.
Insert the main plug for the unit into the socket outlet with an earthing contact.
The unit starts working.

7. Problems and Troubleshooting

Before seriously troubleshooting the unit, first check:
Is the flow of electricity to the unit interrupted?
Is the flow of water to the unit interrupted?
Is the product water flow interrupted?

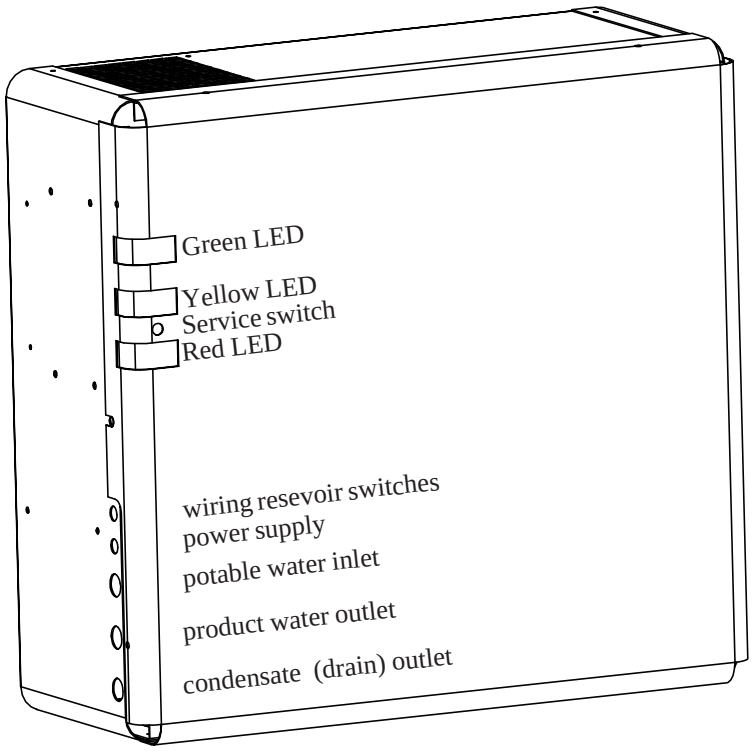
Type of problem	Cause	Remedy
No product is produced BIB not filled and only green LED on	Switches wrongly adjusted	adjust switches otherwise call service
No product is produced and green and yellow LED flashing	water outlet valve defect	call service
No product is produced and green LED on and yellow LED flashing	heater defect electronic device defect	call service call service
No product is produced green LED flashing or on and yellow LED on	water flow to unit is interrupted water inlet valve defect	open waterline or adjust water pressure call service
No product is produced and red LED on	cartridge is full	change cartridge
Product water too warm	discharge vents are covered	uncover discharge vents

8. Technical Data

Output capacity in litre / hour	15
Supply voltage	230 V / 50 Hz (+6% / -10%)
Power consumption in watt	1100
Process temperature in C°	110
Process pressure in bar	0,5
Alarm signal	12-24 V DC, max 100 mA
Dimensions in mm	
Height	510
Width	540
Depth	200
Shipping weight in kg	20
Storage Reservoir in liter	20

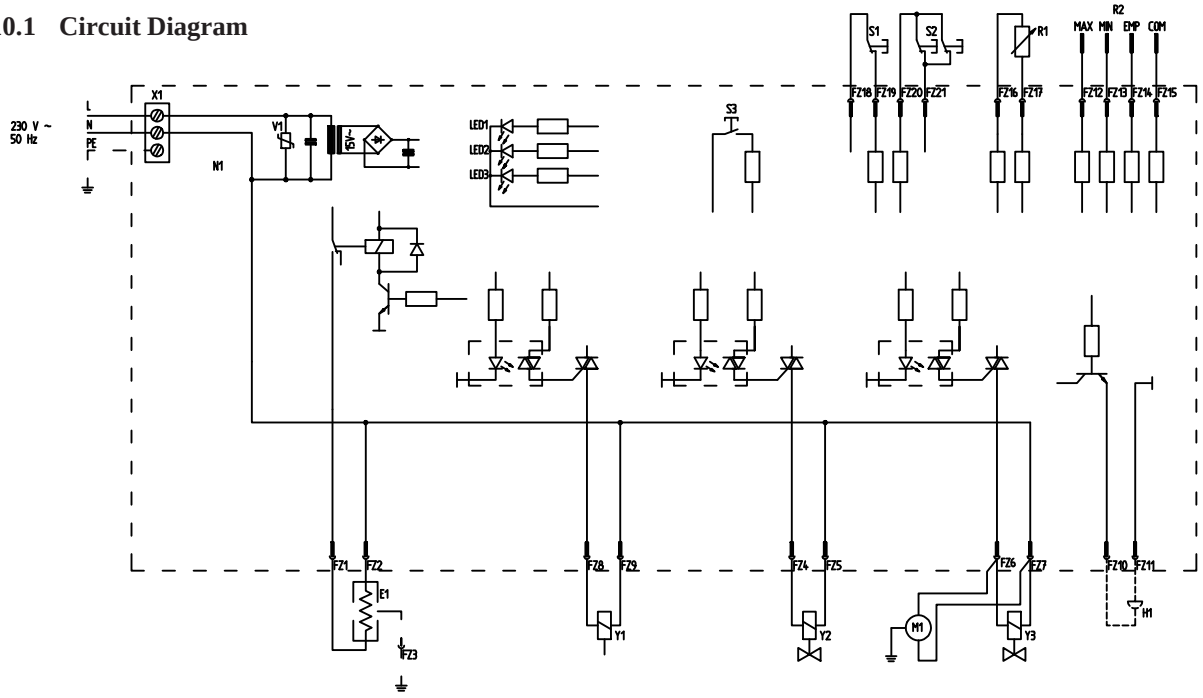
We reserve the right to make modifications.

9. Illustration

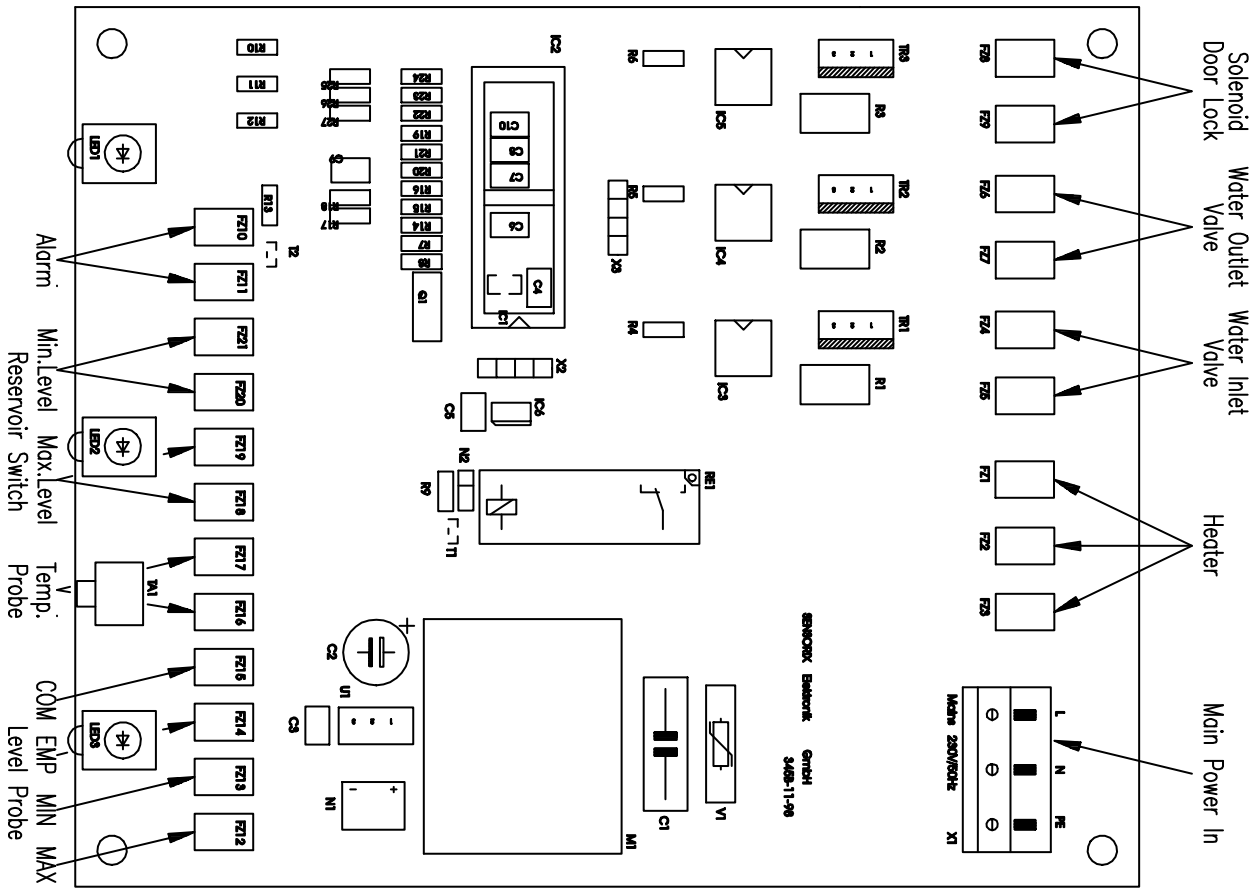


10. Circuit Diagram and Flow Chart

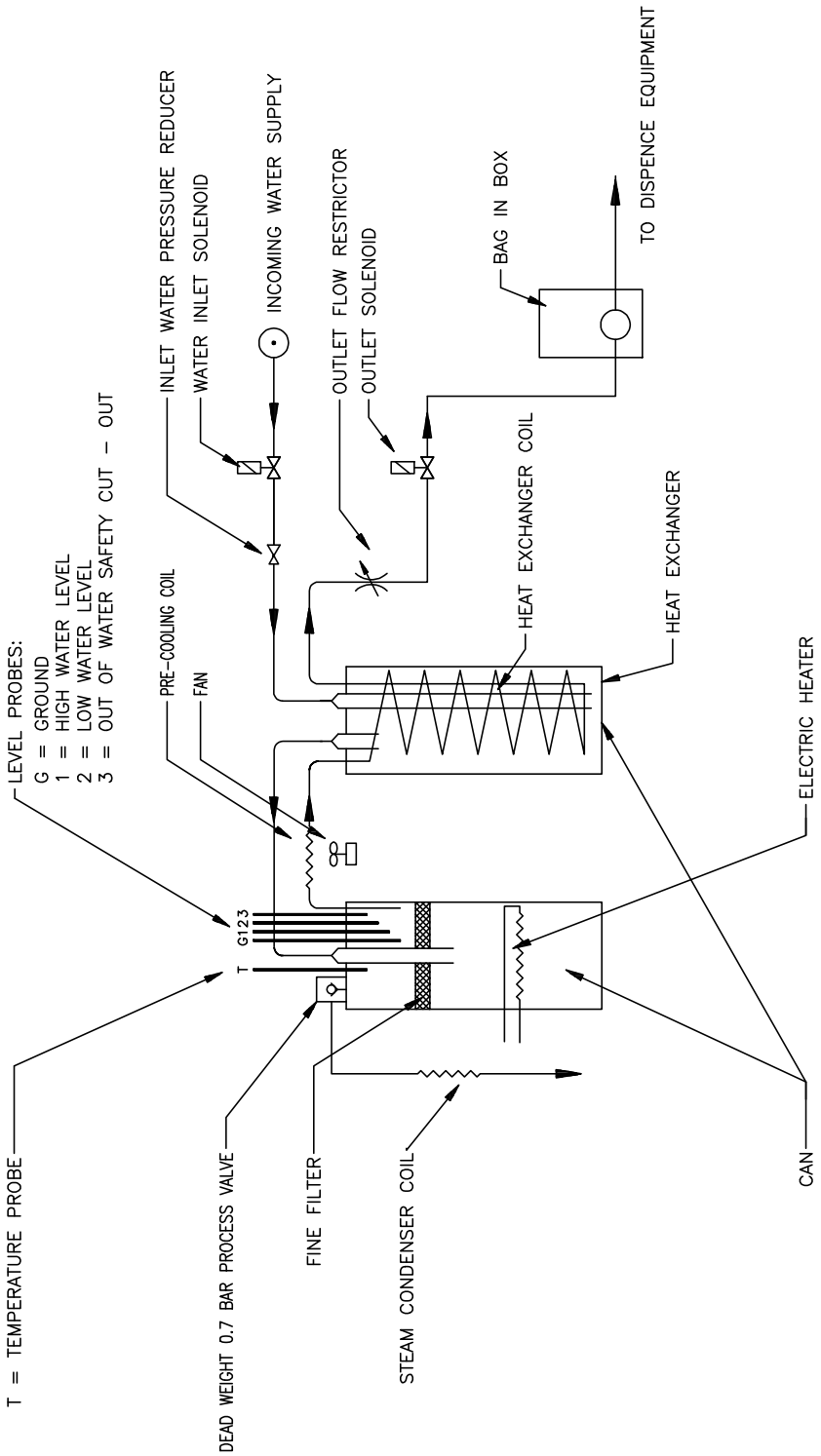
10.1 Circuit Diagram



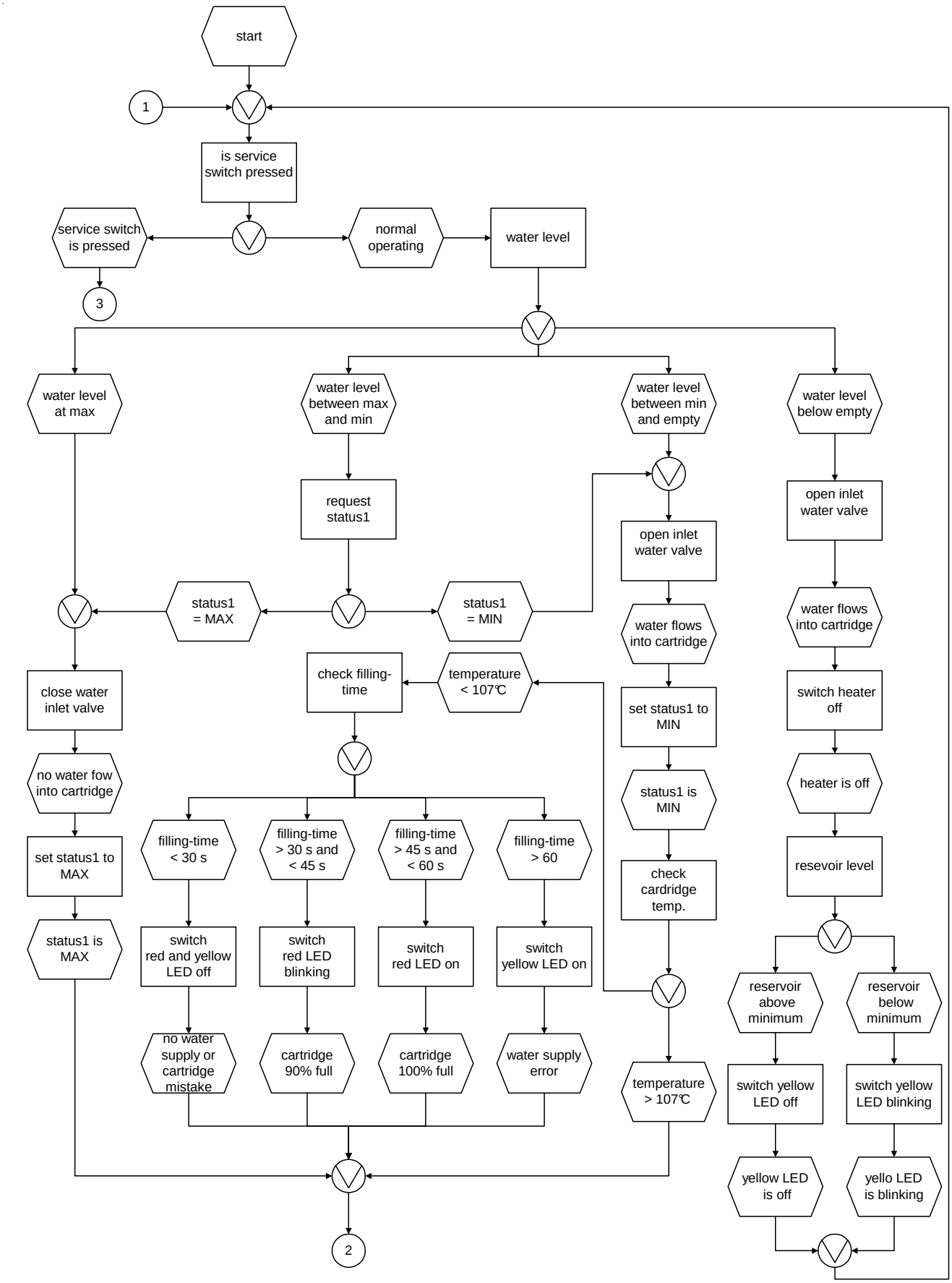
FZ	Plug control board	N1	Control board	V1	Varistor S14 K275
H1	Alarm (not factory fitted)	R1	Temperature probe	X1	Plug power-in
LED1	Status LED-operating mode	R2	Level probe	Y1	Solenoid Door lock
LED2	Status LED-Water	S1	Switch Reservoir max. level	Y2	Water Inlet Valve
LED3	Status LED-Cartridge	S2	Switch Reservoir min. level	Y3	Water Outlet Valve
M1	fan motor	S3	Service Switch		

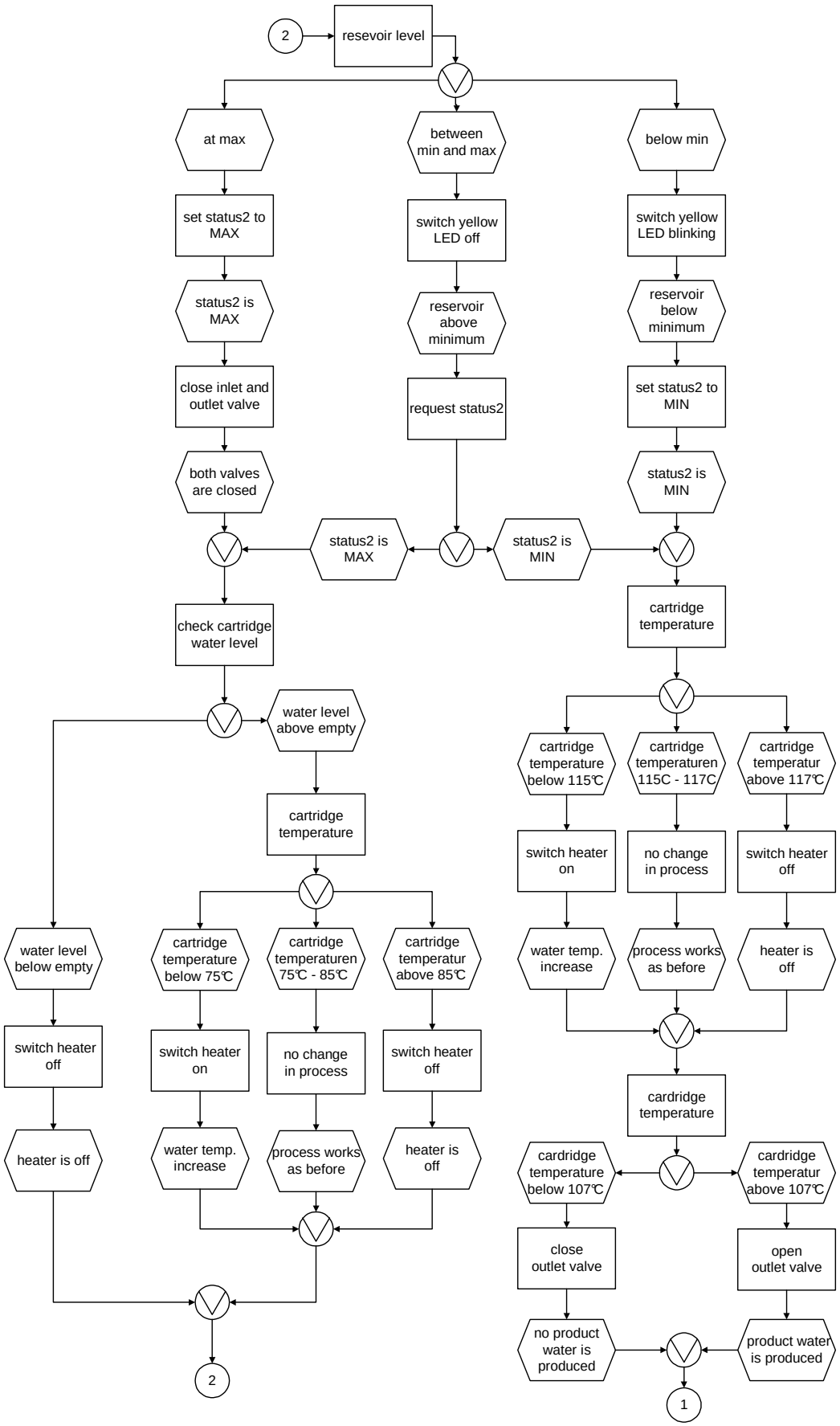


10.2 Flow Chart



11. Logic Diagram




2
resevoir level
at max
between min and max
below min
set status2 to MAX
switch yellow LED off
switch yellow LED blinking
status2 is MAX
reservoir above minimum
reservoir below minimum
close inlet and outlet valve
request status2
set status2 to MIN
both valves are closed
status2 is MIN
status2 is MAX
status2 is MIN
check cartridge water level
cartridge temperature
water level above empty
cartridge temperature
cartridge temperature below 115℃
cartridge temperaturen 115C - 117C
cartridge temperatur above 117℃
switch heater on
no change in process
switch heater off
water level below empty
cartridge temperature below 75℃
cartridge temperaturen 75℃ - 85℃
cartridge temperatur above 85℃
water temp. increase
process works as before
heater is off
switch heater off
switch heater on
no change in process
switch heater off
cardridge temperature
heater is off
water temp. increase
process works as before
heater is off
cardridge temperature below 107℃
cardridge temperatur above 107℃
close outlet valve
open outlet valve
no product water is produced
product water is produced
2
1


3
is switch for more than 5 s pressed
time < 5s
time > 5 s
open inlet water valve
water flows into cartridge
switch heater off
heater is off
cartridge temperature
temperature < 50℃
temperature > 50℃
switch LED´s parallel blinking
switch LED´srunnning
LED´s parallel blinking
LED´s runnning
close water inlet valve
no water fow into cartridge
switch heater off
heater is off
open water inlet and outlet valve
valves are opened
switch all LED´s on
LED´s are on
waiting for power reset
power reset
1