



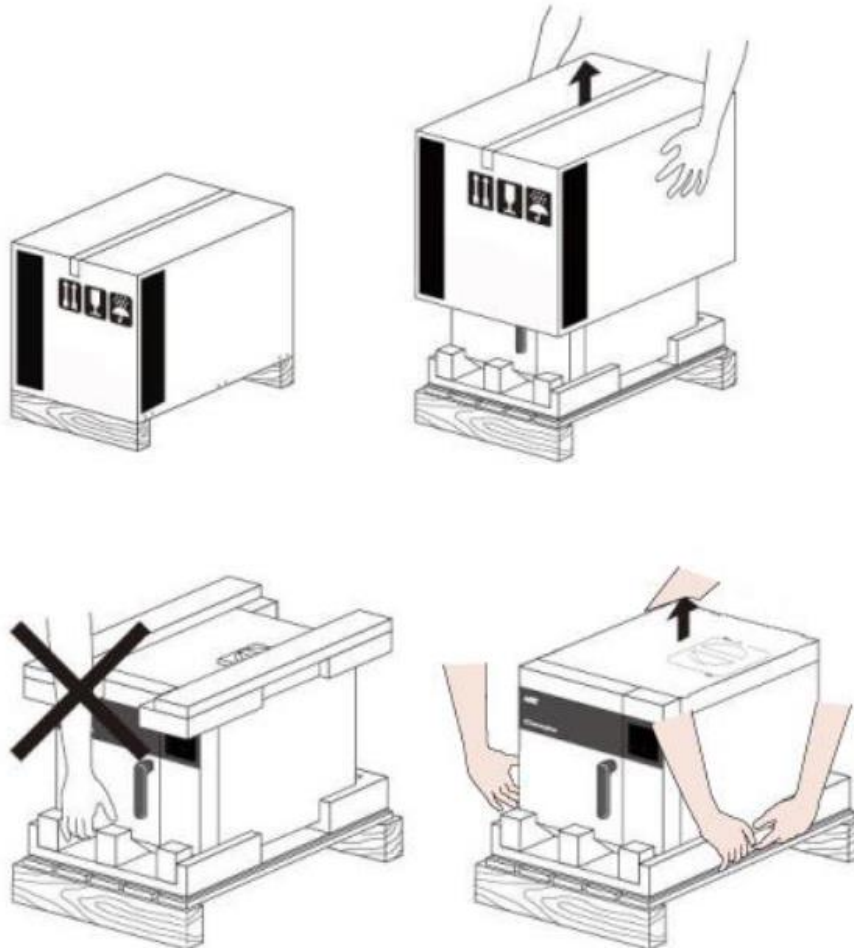
iClave plus

Water Steam Sterilizer – Class B





INSTALLATION AND SETUP



Installation requirements

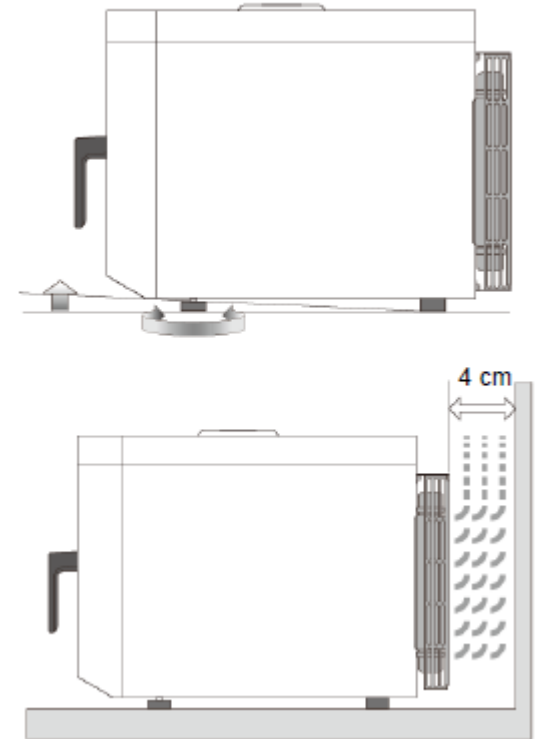
To insure proper working conditions, there are some important requirements to satisfy:

- The unit is heavy, a stable support is important
- The user has to see the chamber inside, it is not suggested to insert the unit in cabinets below the top
- 2000W is the maximum power requirement, verify if extension cords or plug adapters are able to manage it
- All the power consumed (600W/h average) is converted in heat, it is required a correct heat exchange to have good performances and long working life
- The chamber needs a correct tilt to drain the water, the front feet are adjusted for a standard position, check if additional adjustment is required

The unit, when new, needs to run an automatic installation procedure:

- Fill the reservoir with demineralized water
- Close the door
- **Hold on the key UP and push the key POWER**
- The unit shows SET ALT Mt, select the value of the elevation of the site with key **UP** and key **DOWN**
- **Push START/STOP** to confirm
- The vacuum pump fills the hoses with the water
- After few seconds, when the pump stops, the unit is ready to work

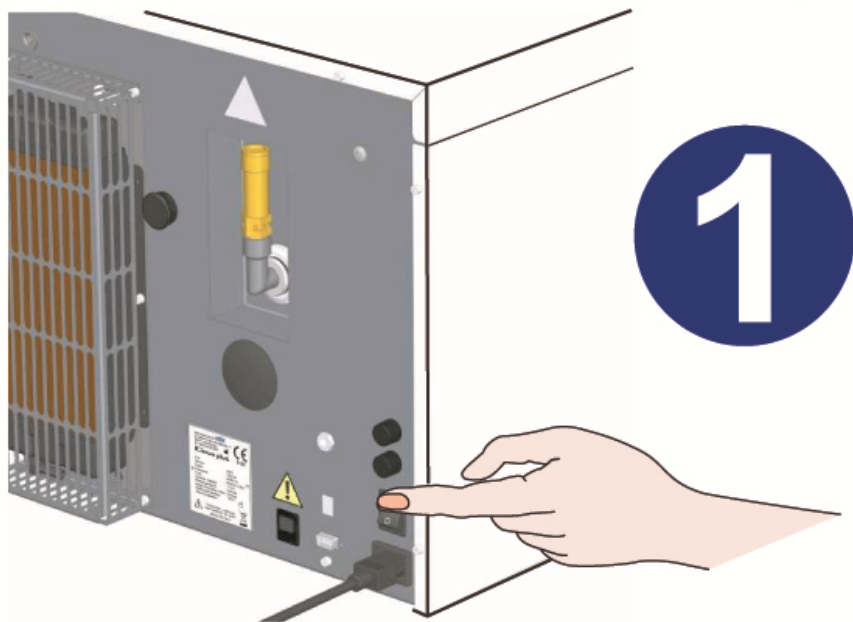
After this procedure the values are stored in the memory and cannot be deleted



Use and adjustments

TABLE OF THE PROGRAMS

	PARAMETERS	TYPE OF LOAD	TYPE OF CYCLE	RANGE OF PARAMETERS	MAXIMUM LOAD	VALIDATION TEST
1 UNIVERSAL	134°C - 5 min. 3 vacuum phases drying 10 min.	Solid, porous, A and B type hollow and wrapped instruments (rif. EN868)	B	134+137°C 2,04+2,25 bar	4 kg solid or 1,5 kg porous or a proportioned combination of both	Helix test EN 13060 Par 10.6
2 DELICATE	121°C - 20 min. 3 vacuum phases drying 12 min.	Solid, porous, A and B type hollow and wrapped instruments (rif. EN868)	B	121+124°C 1,04+1,24 bar	4 kg solid or 1,5 kg porous or a proportioned combination of both	Helix test EN 13060 Par 10.6
3 FLASH	134°C - 4 min. 2 vacuum phases drying 5 min.	Solid unwrapped instruments	S	134+137°C 2,12+2,30 bar	4 kg solid	Solid load unwrapped EN 13060 Par 10.5
4 SMALL LOAD	134°C - 4 min. 3 vacuum phases drying 5 min.	Solid, A and B type hollow and wrapped instruments	B	134+137°C 2,04+2,25 bar	0,5 kg solid	Helix test EN 13060 Par 10.6
5 PRION	134°C - 18 min. 3 vacuum phases drying 10 min.	Solid, porous, A and B type hollow and wrapped instruments (rif. EN868)	B	134+137°C 2,04+2,25 bar	4 kg solid or 1,5 kg porous or a proportioned combination of both	Helix test EN 13060 Par 10.6
6 CRITICAL 134°	134°C - 5 min. 4 vacuum phases drying 14 min.	Solid, porous, A and B type hollow and wrapped instruments (rif. EN868)	B	134+137°C 2,04+2,25 bar	4 kg solid or 1,5 kg porous or a proportioned combination of both	Helix test EN 13060 Par 10.6
7 CRITICAL 121°	121°C - 20 min. 4 vacuum phases drying 16 min.	Solid, porous, A and B type hollow and wrapped instruments (rif. EN868)	B	121+124°C 1,04+1,24 bar	4 kg solid or 1,5 kg porous or a proportioned combination of both	Helix test EN 13060 Par 10.6
8 SPECIAL	Parameters selected by the operator: temperature: 105+135°C time: 3+90 min. vacuum phases: 2, 3 or 4 drying: 5+14	Depends on the parameters selected	Depends on the parameters selected	105+138°C 0,21+2,30 bar	Depends on the parameters selected	Depends on the parameters selected
Test Bowie & Dick	134°C - 3,5 min. 3 vacuum phases drying 10 min.	Test B&D (3M™ COMPLY™ cod. 1300)	TEST	134+137°C 2,04+2,25 bar	B&D test pack	N/A it is not a sterilization cycle
Vacuum test	Temperature under 35°C		TEST	< 35°C	Empty chamber	N/A it is not a sterilization cycle



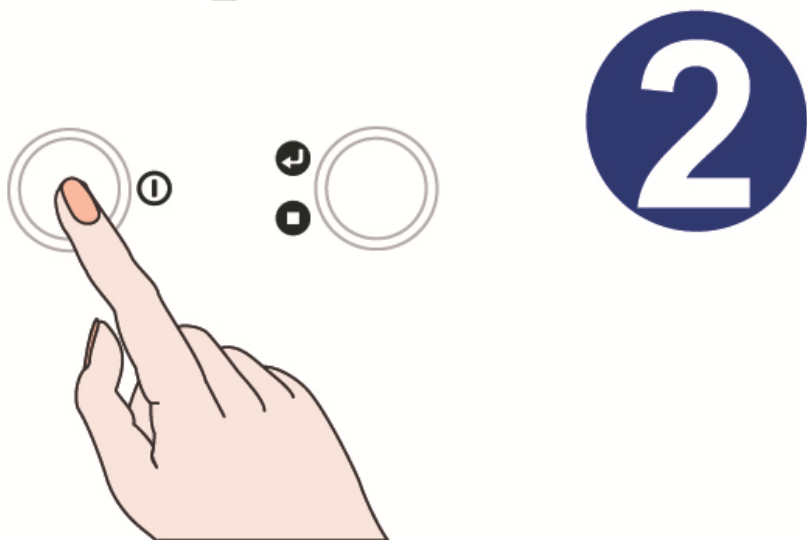
Main switch ON

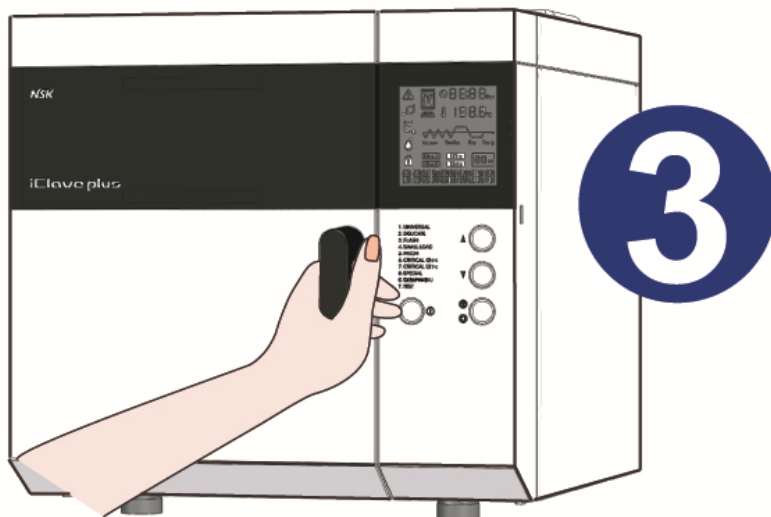
- The upper display shows hours
- The middle display shows OFF
- The lower display shows the day and month.

Press the «Power» button

- The unit is switched on and perform the self diagnosis
- Wait for the signal tone which indicates the end of the self diagnosis.

At the end of the self diagnosis the display shows the current time, the temperature values and the pressure in the chamber. If the chamber temperature is less then 35°C, the «LOW» indication appear in the display.





Load the chamber and close the door

Maximum load:

Solids: 4 Kg

Solids porous: 1,5 Kg

Excessive loading possibly impairs the sterilization result.



full
(lighted)

Waste water tank

4



full
(blinks)



empty
(blinks)

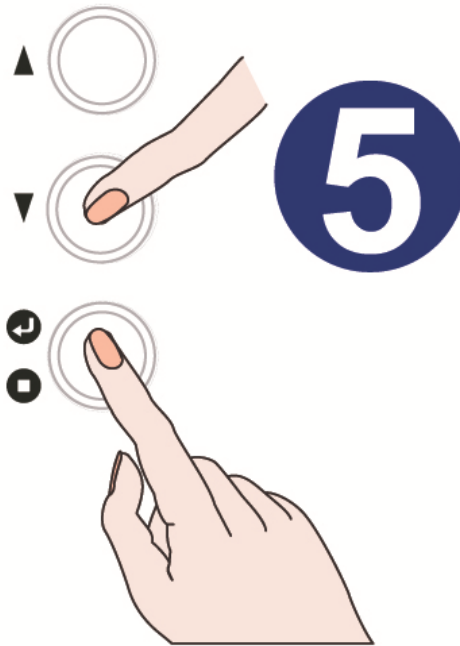
Fresh water tank

Check icons on the display about the water levels in the reservoirs.

Check that the icon of the fresh water (main) tank does not indicate that it is empty and the icon for the waste water tank is not lighted.

Never use tap water. Bad quality water could produce deposits and/or crusting and compromise correct function of the autoclave. When required, fill the fresh water tank until until the drop icon on the display flashes. Only use demineralized water < 15µs.

- 1. UNIVERSAL
- 2. DELICATE
- 3. FLASH
- 4. SMALL LOAD
- 5. PRION
- 6. CRITICAL 134°C
- 7. CRITICAL 121°C
- 8. SPECIAL
- C. CLEANING
- T. TEST



Select program

- Select the desired program
- Press the «START/STOP» button.

The programs 3.FLASH and 8.SPECIAL do not assure a class B type of sterilization, is required to hold down the START/STOP button longer than 3 seconds.

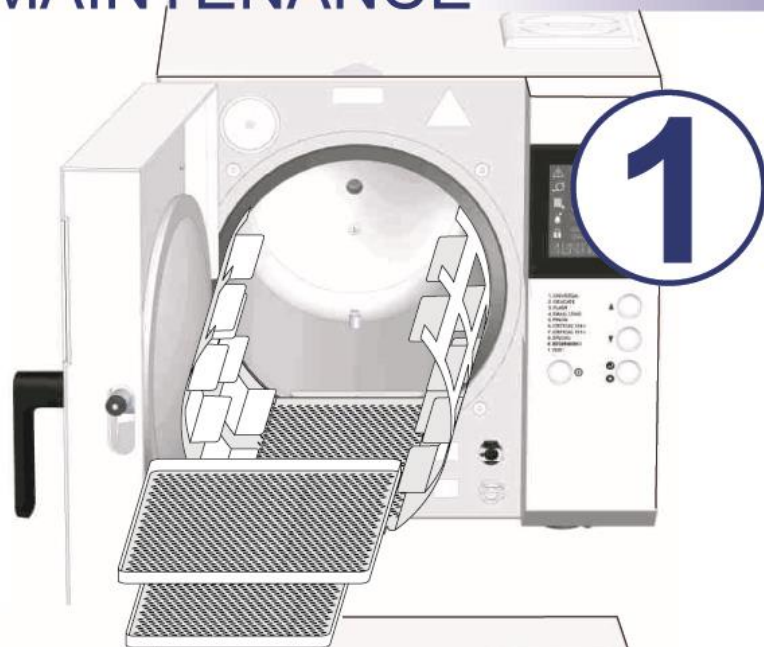


«Ready» program end

- The led READY flashes
- The display is green
- Press «START/STOP» for open.
- The unit can be opened.

The instruments and the chamber can be hot. The display indicates the temperature values, the pressure and total duration of of the sterilization cycle. 30 minutes after program end if either the door is opened or any button is pressed the unit switches off automatically.

MAINTENANCE



«Need cleaning»

- The warning appears after 60 cycles.
- Remove and clean basket and trays with a common detergent.



Place one tab (Ref. 0230050) in the chamber and close the door.

C. CLEANING



3

- Select program C. CLEANING and press the START/STOP button to start the automatic cleaning cycle.
- The cycle last approx. 15÷20 min.
- After the end of cycle the «Ready» indication appears
- The unit Switch off.



- Switch on the autoclave.
- Open the door.
- Empty the waste water with the drain hose.
- Remove the hose.
- Fill the tank with demineralised water.
- Clean the residues and dry the chamber.
- ATTENTION the unit can be hot!

User **SETUP** described in the user manual

- Clock adjustment: press **UP+DOWN**, when “TIME” press **START/STOP**, with **UP** and **DOWN** select the value, **START/STOP** to confirm.
- Exp Days: press **UP+DOWN**, when “TIME” press **START/STOP**, with **UP** and **DOWN** select the value, **START/STOP** to confirm.
- Printer language: press **UP+DOWN**, when “TIME” press **DOWN** until “ADJUST”, press **START/STOP**, press **DOWN** until “LANGUAGE”, press **START/STOP**, find your language with **UP** and **DOWN**, press **START/STOP** to confirm and **POWER** to exit.
- Special cycle parameters: press **UP+DOWN**, when “TIME” press **UP**, when “SET SPECIAL CYCLE” press **START/STOP**, with **UP** and **DOWN** select the temperature and press **START/STOP** to confirm, with **UP** and **DOWN** select the time and press **START/STOP** to confirm, with **UP** and **DOWN** select number of vacuum and press **START/STOP** to confirm, with **UP** and **DOWN** select time dry and press **START/STOP** to confirm, press **POWER** to exit.
- Counters: press **UP+DOWN**, when “TIME” press **UP** until “MEMORIES”, press **START/STOP** to confirm, press **UP** or **DOWN** to see cycles, aborted cycles, alarms, cleaning cycle, installation date and last service date.
- Temperatures: press **UP+DOWN**, when “TIME” press **UP** until “ADJUST”, press **START/STOP** to confirm, press **UP** until “PRESS-TEMP”, press **START/STOP** to confirm.
- TEST OUT: press **UP+DOWN**, when “TIME” press **DOWN** until “ADJUST”, press **START/STOP**, press **DOWN** until “TECH MENU”, press **START/STOP**, with **UP** select 55, press **START/STOP** to confirm, press **DOWN** until “TEST OUT”, select component that you want to test with **UP** or **DOWN** and change ON/OFF with **UP** and **DOWN**
- Installation: press **UP+POWER**, use **UP** and **DOWN** to select your altitude, press **START/STOP** to confirm.
- To delete installation: press **UP+DOWN**, when “TIME” press **DOWN** until “ADJUST”, press **START/STOP**, press **DOWN** until “TECH MENU”, press **START/STOP**, with **UP** select 55, press **START/STOP** to confirm, press **DOWN** until “NEED INSTALL”, press **START/STOP** to confirm.

Technical adjustments

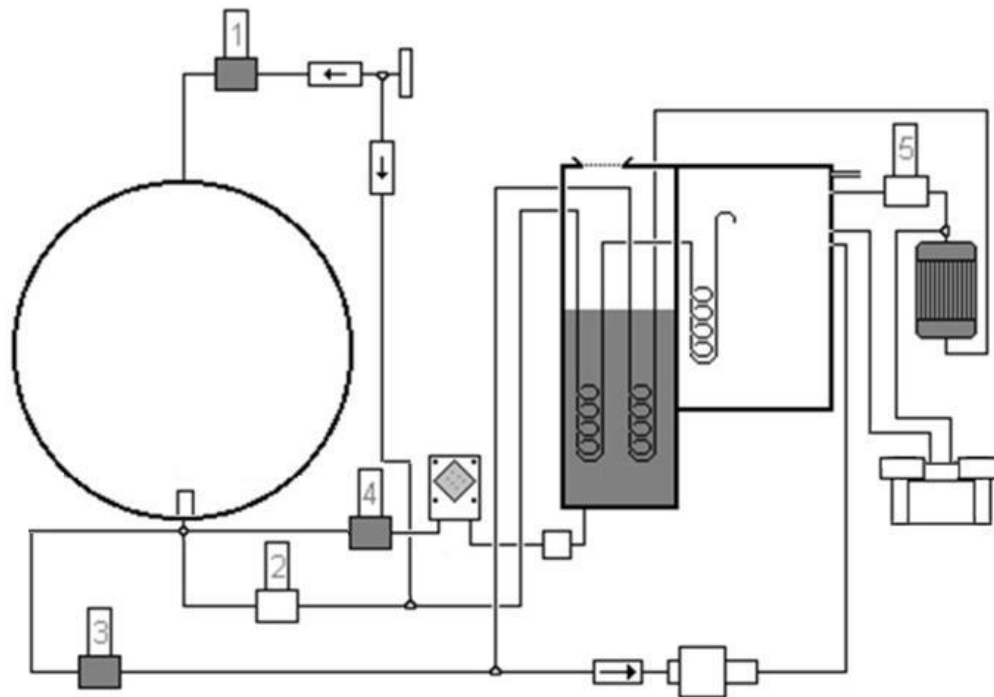
Pushing together the buttons F and S it is possible to enter in additional adjustments, use 1 and 2 to select, SET to confirm, POWER to go back/exit:

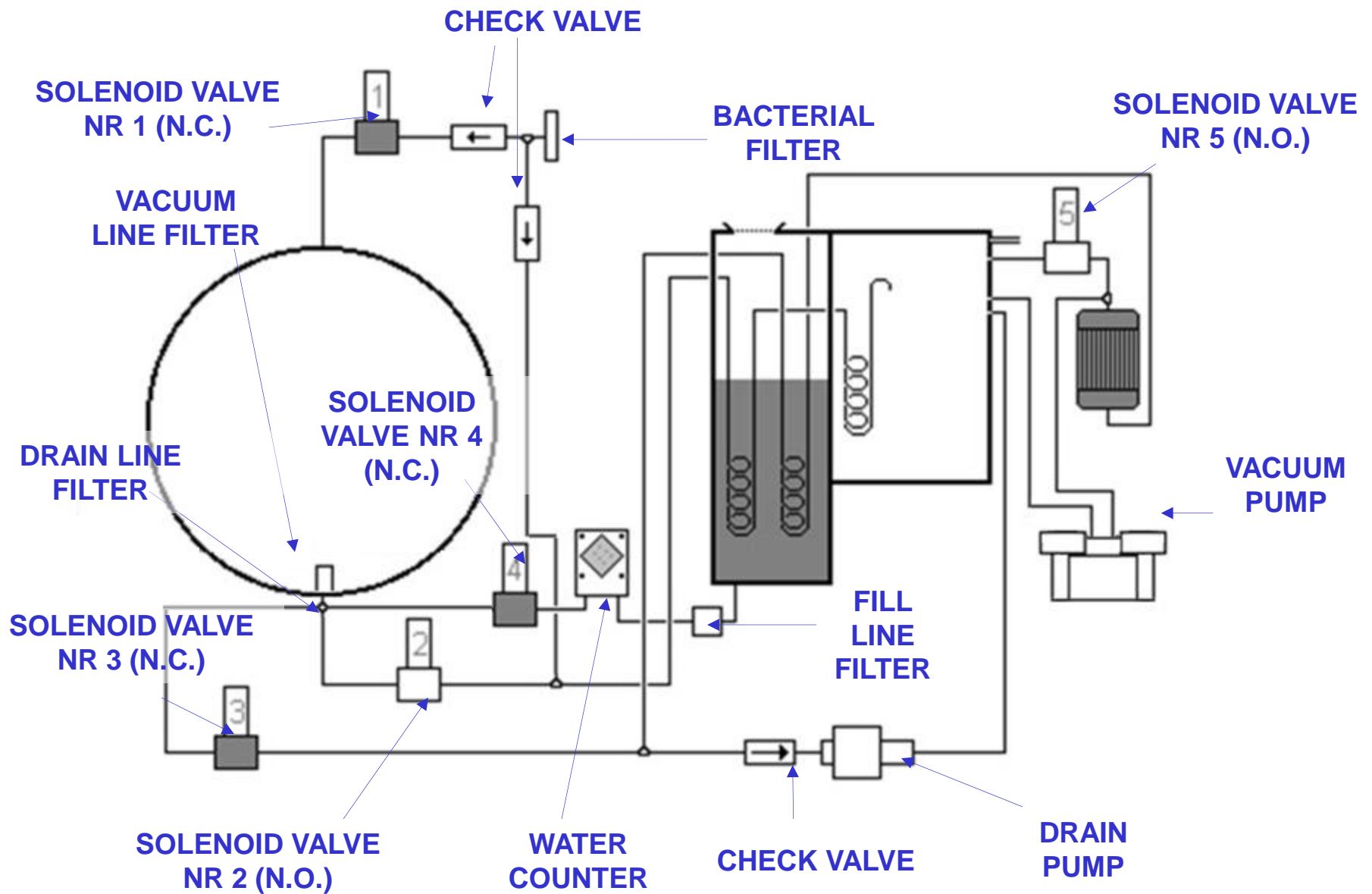
- SET ALTITUDE: to adjust the elevation
- ADD DRY TIME: increases the dry time of all the cycles
- H2O DOSE: adjust the water dose in a range of +/- 30%
- ADD VACUUM: increases the vacuum level from 0 to -0.06 Bar
- PRINTER TYPE: selects the kind of printer, normal or labels printer
- TECH MENU: enter in the protected technical menu, it requires a password, select 55 than push SET
- FACTORY ADJ: for factory use only

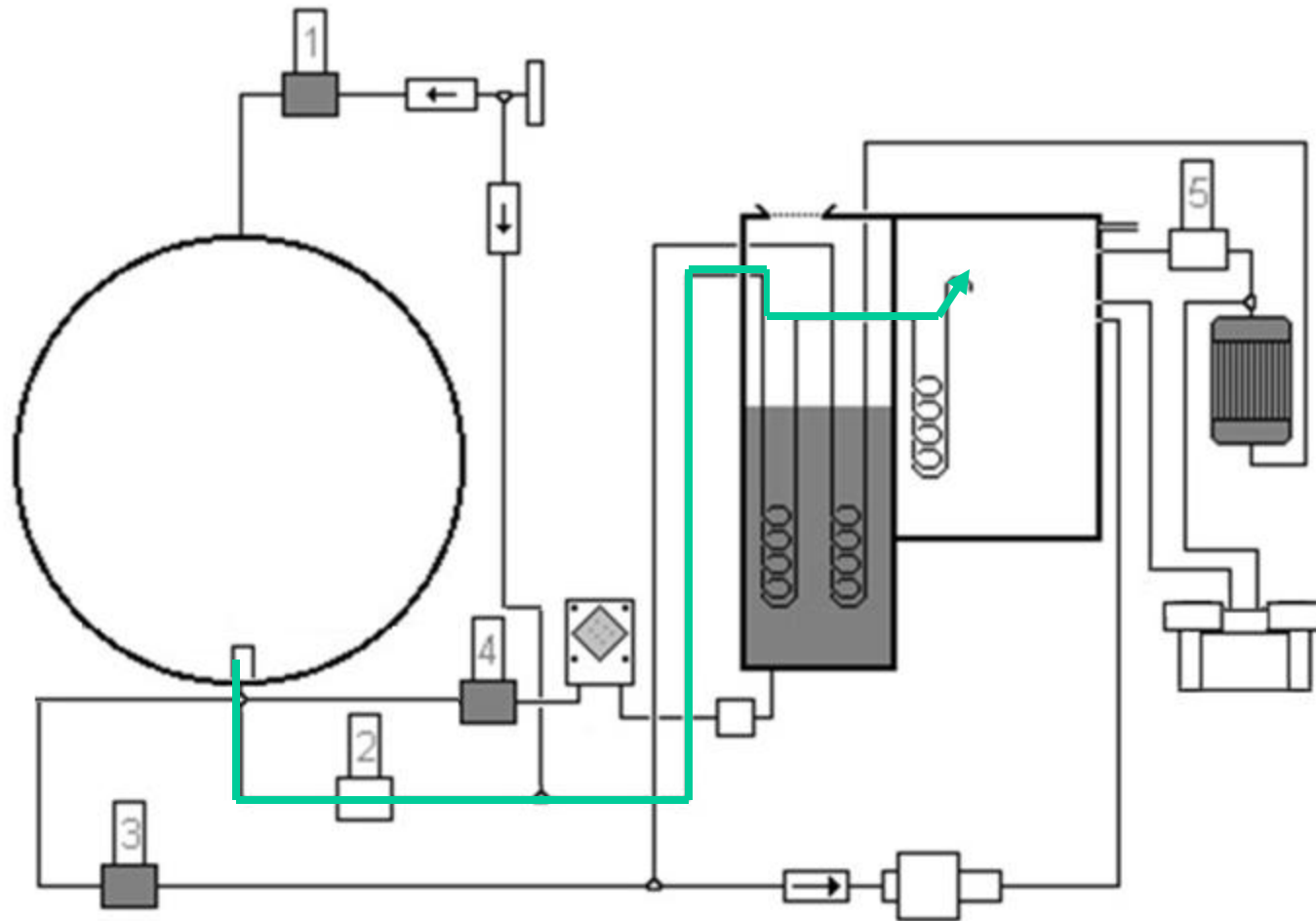
TECH MENU

In the technical menu there are additional adjustments:

- SET MODE: selection of the working mode
 - STD normal working condition
 - HI troubleshooting mode decreasing the alarms tolerances
 - LO troubleshooting mode increasing the alarms tolerances
 - AUTO ADJ runs a special cycle to calibrate the temperature sensors following the pressure value
 - AUTO OFF eliminate the automatic calibration values
- SET MODEL: select the mane of the unit on the print
- TEMP STEAM ADJ: manual adjustment of the steam temperature sensor
- PRESSURE ADJ: manual adjustment of pressure sensor
- TEMP CORRECT: moves the cycles parameters in a range of +/- 1°C
- HOLD TIME: add 30" to the countdown before to enter in the sterilization phase

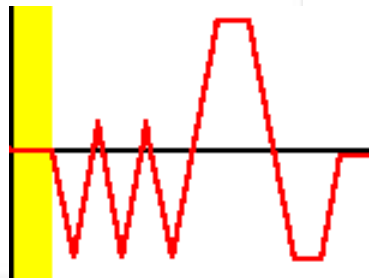






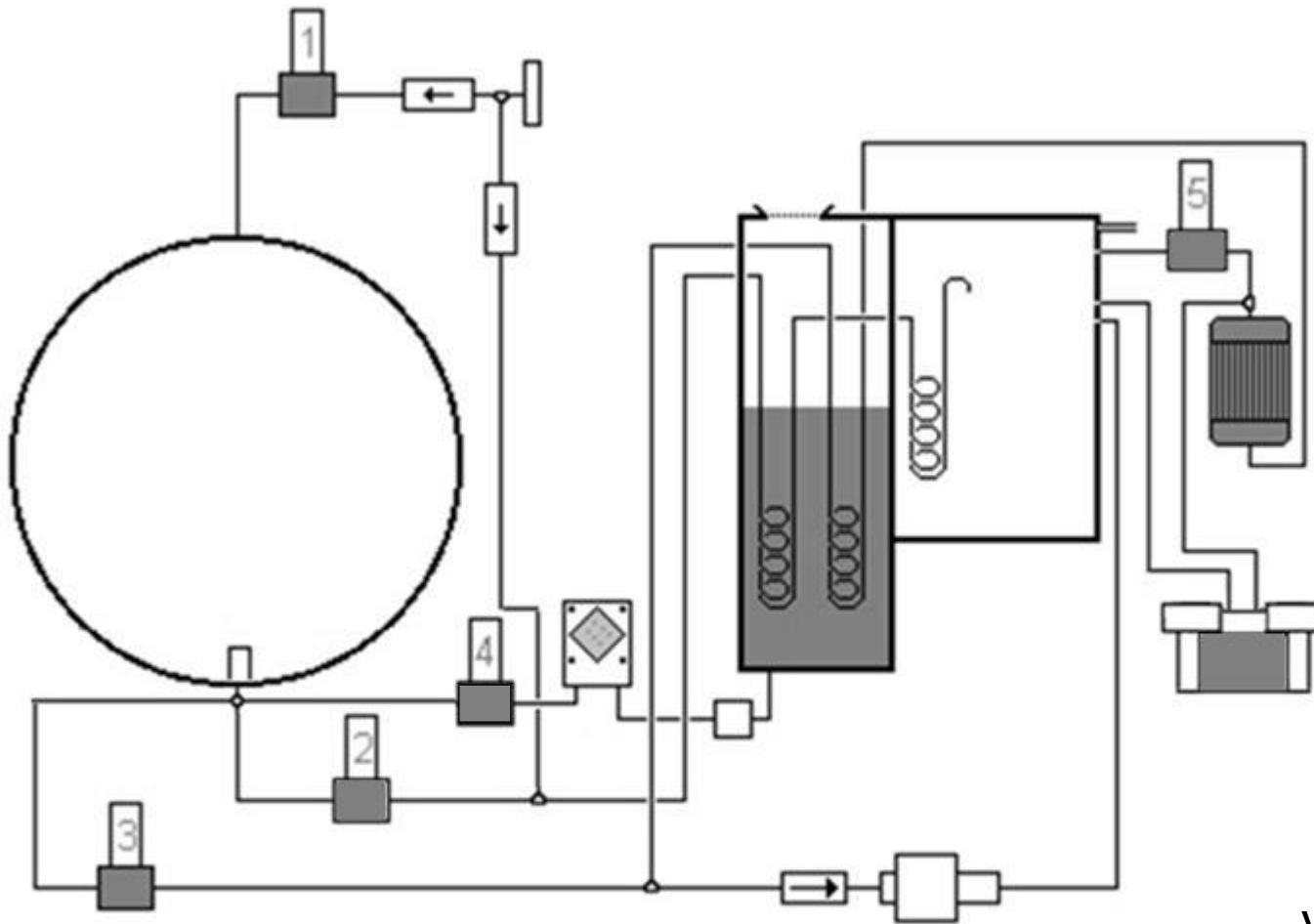
PREHEATING

The unit remains in this condition until the surface temperature reaches 100°C (up and down)



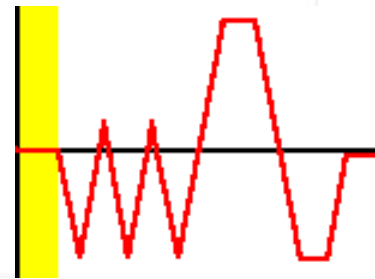


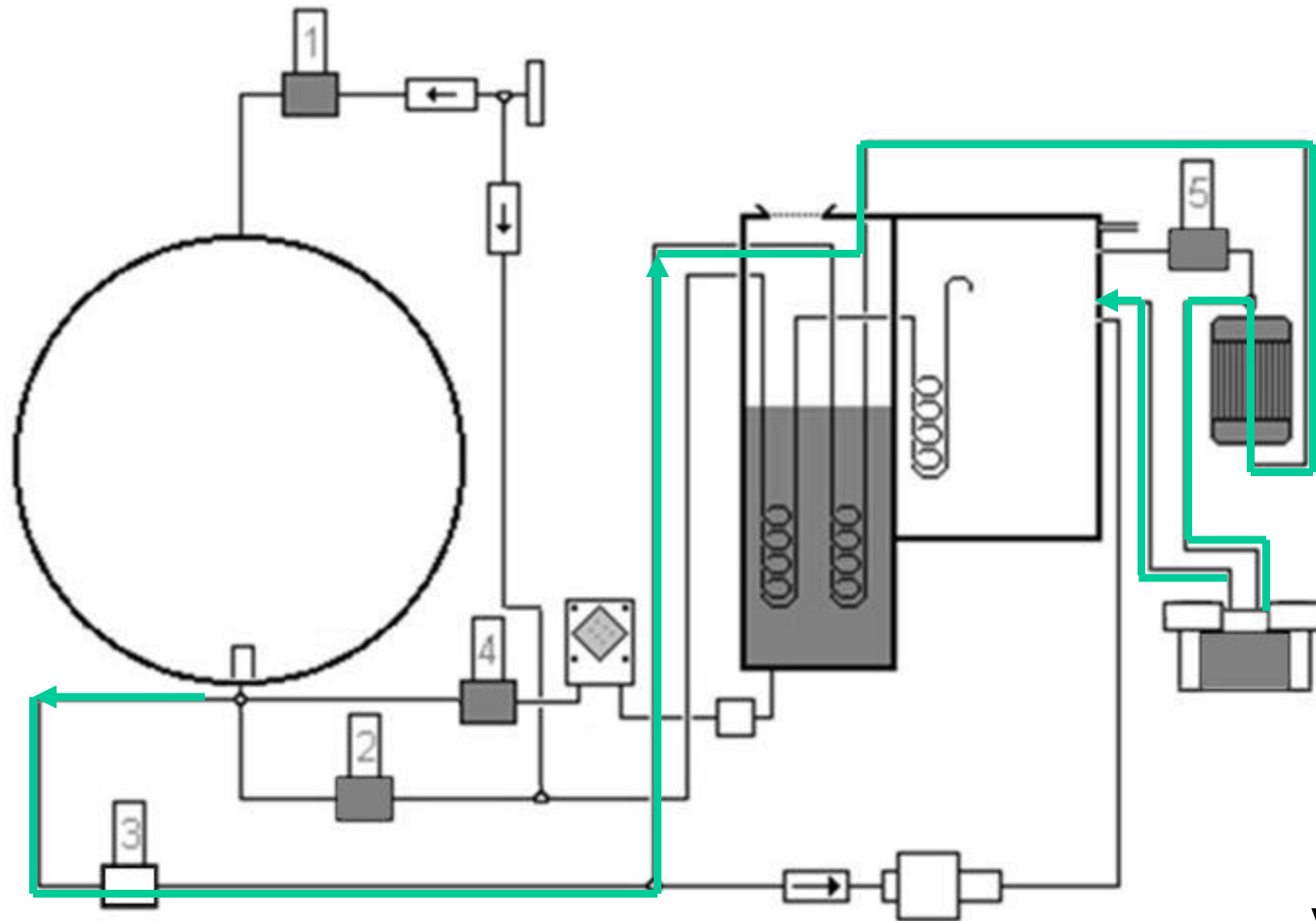
The graph shows a red line on a black background. The line starts at a baseline, then exhibits a high-frequency burst with three sharp peaks. This is followed by a lower-frequency oscillation with two broader peaks, and finally returns to the baseline.



After a couple of seconds, V5 turns on (it closes)

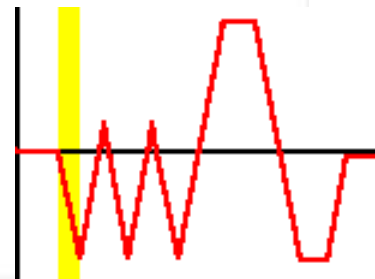
VACUUM

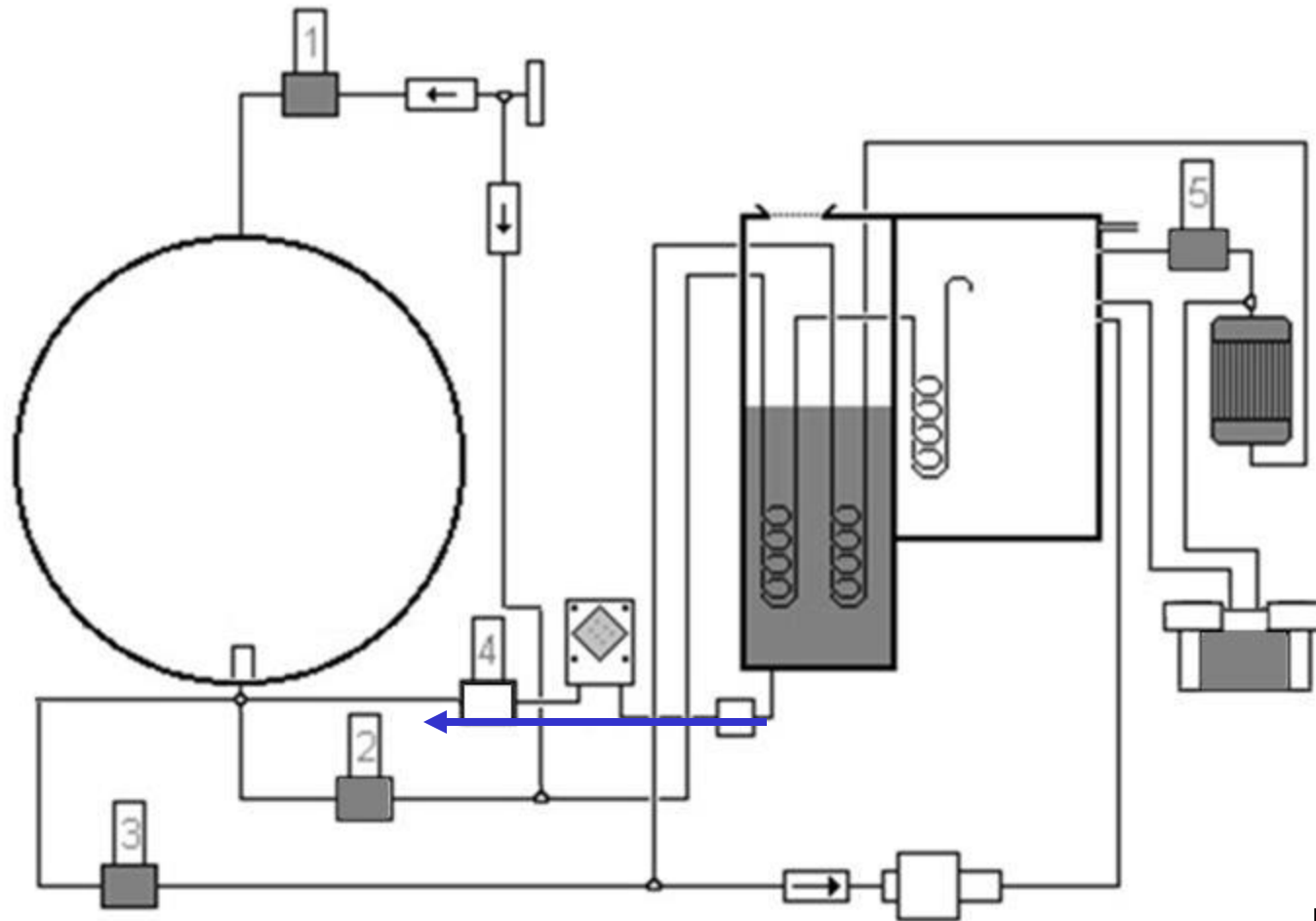




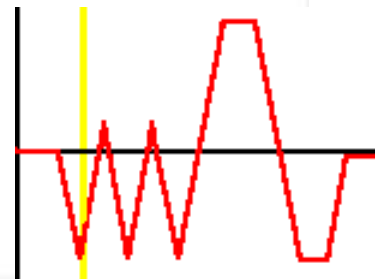
After a couple of seconds, V3 turns on (it opens)

VACUUM



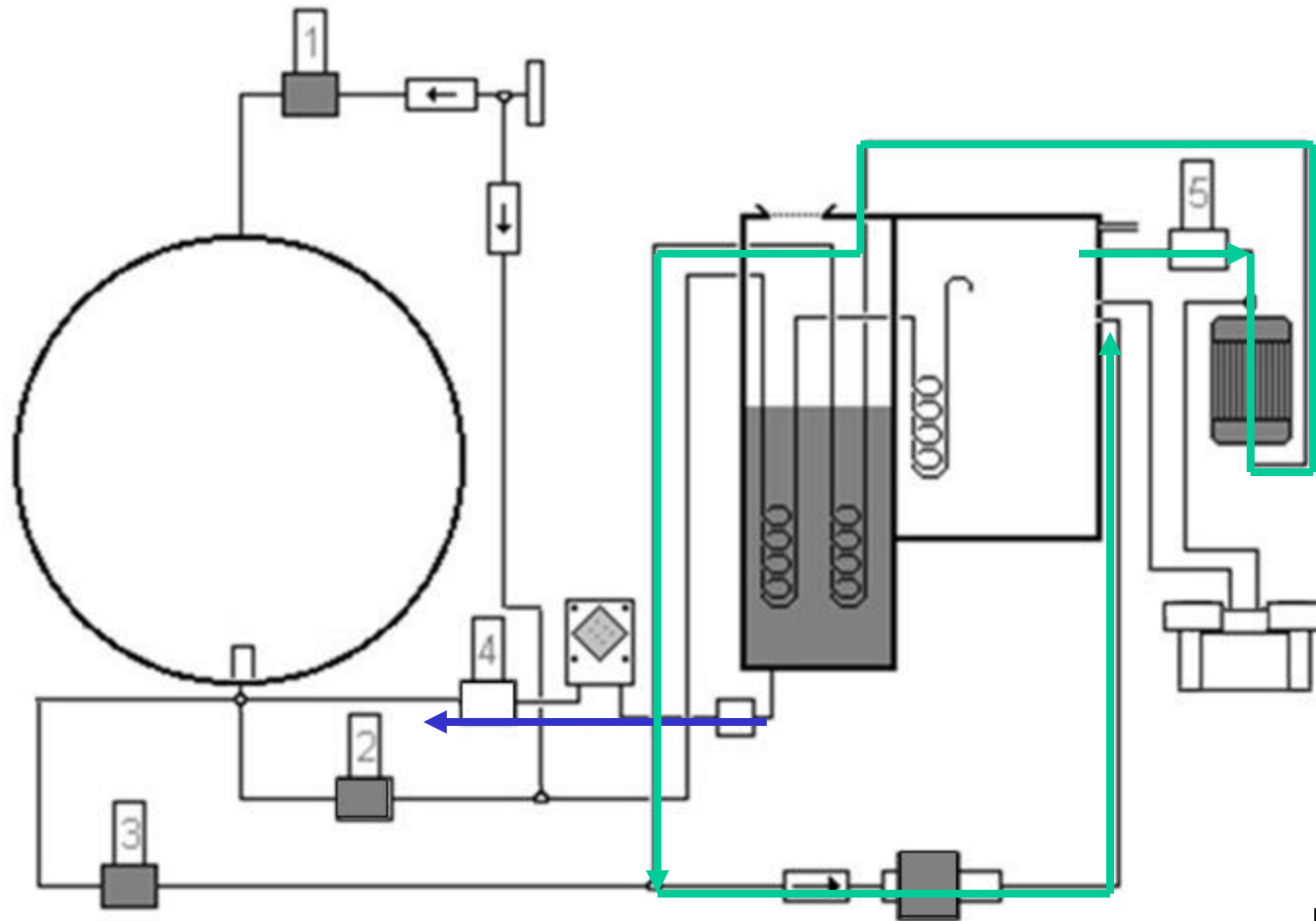


H2O FILL



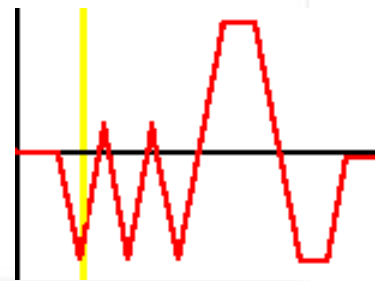
When the pressure reaches -0.8 bar, (for altitude from 0 to 100 m), V3 closes and V4 opens.

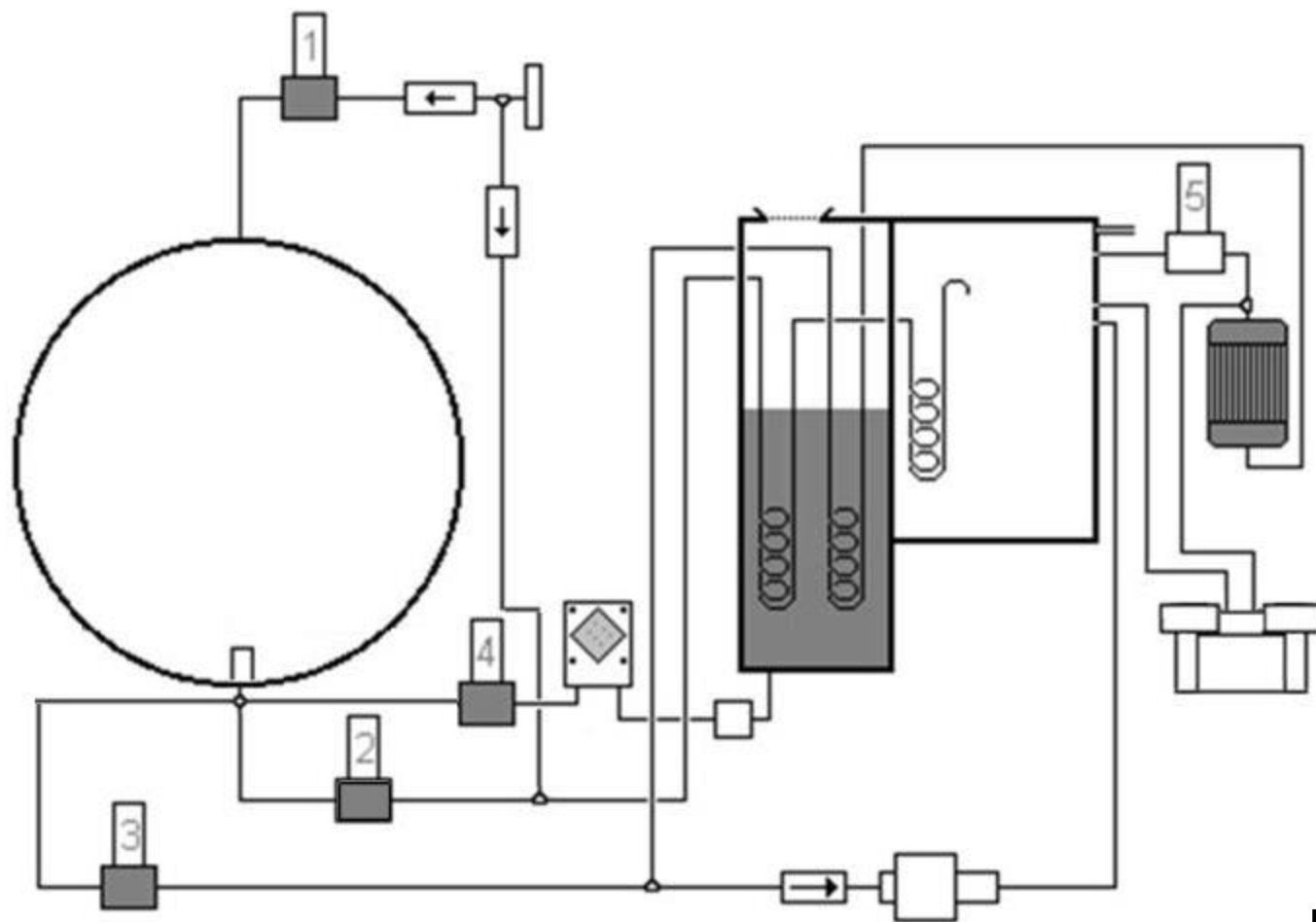
The water counter generates 1 pulse every 0.5cc of water



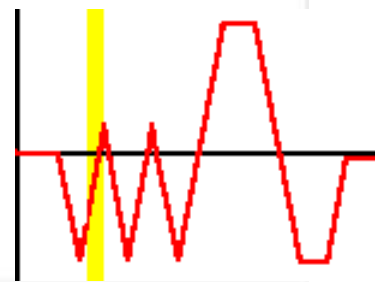
**V5 opens and the drain pump turns on for 20 seconds.
When the correct dose of water is loaded, V4 closes**

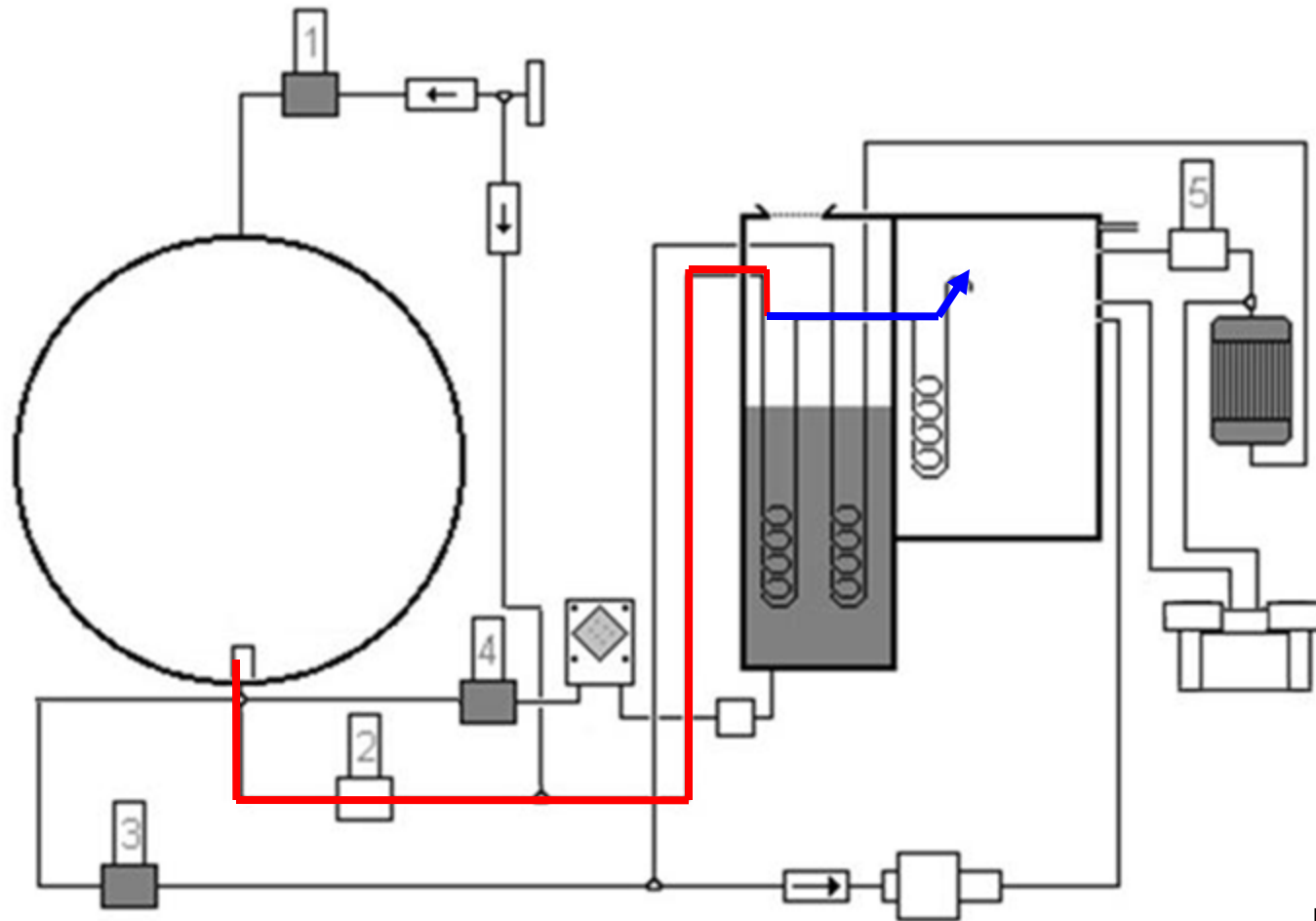
H2O FILL





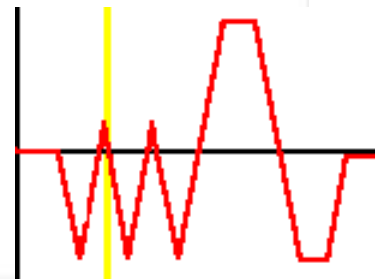
HEATING

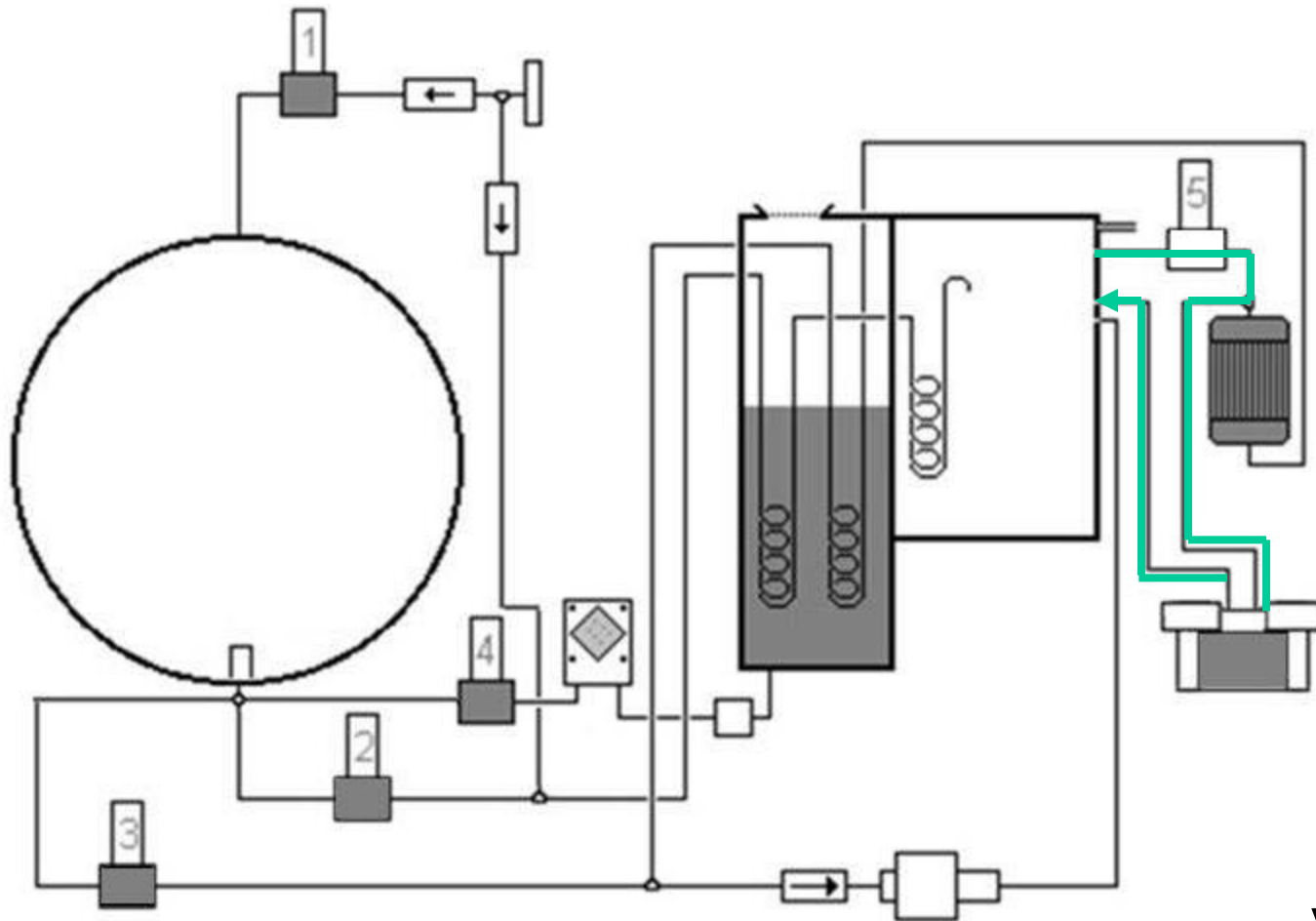




When the pressure reaches 0.16 bar, V2 turns off (opens) and the pressure is released through the condensers in the used water reservoir

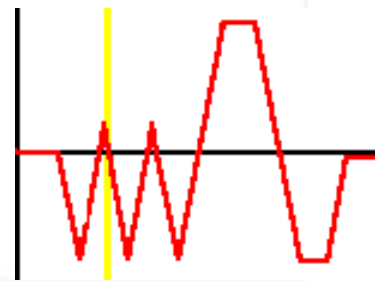
DRAIN

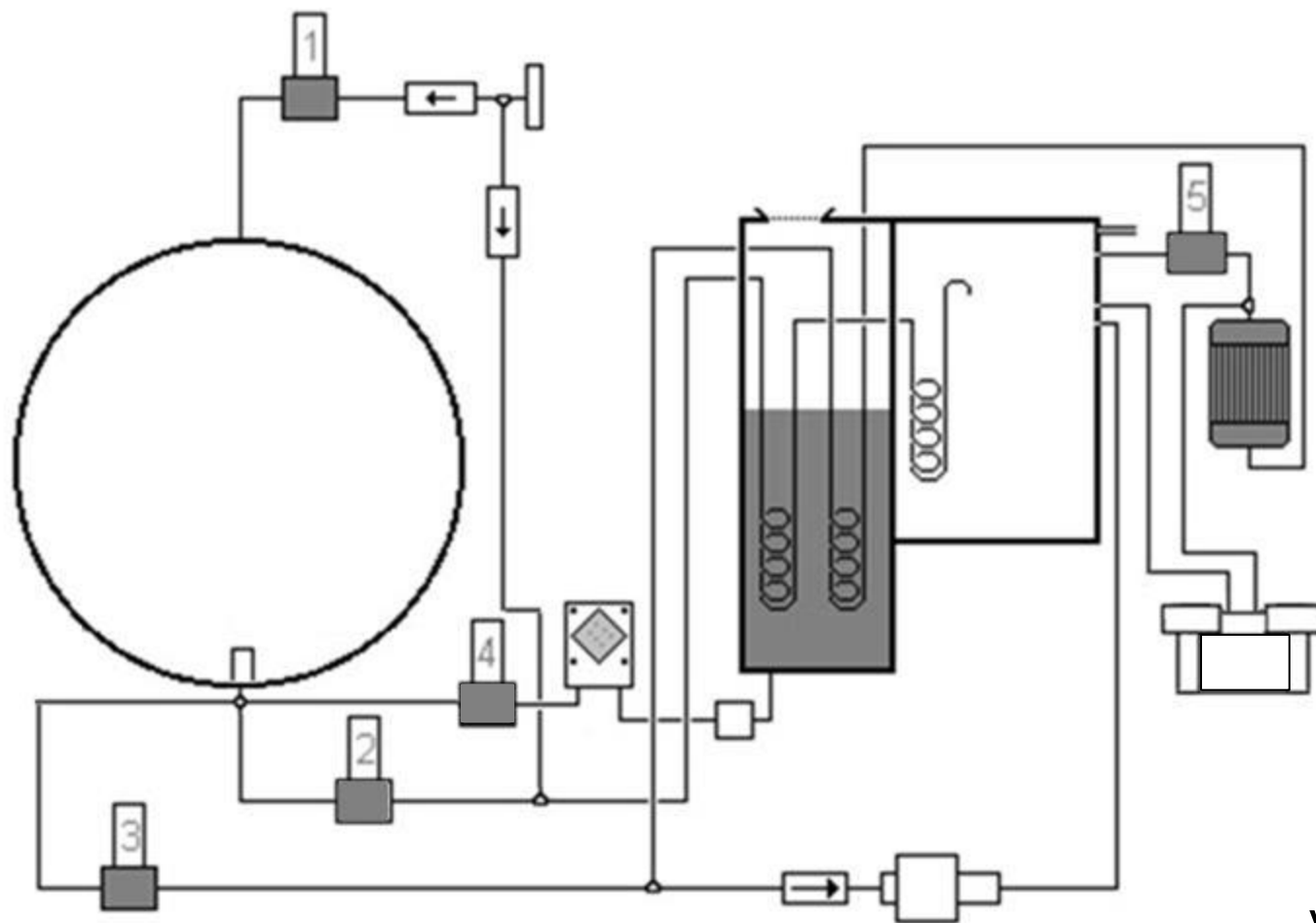




At 0.05 bar, V2 closes and the vacuum pump turns on

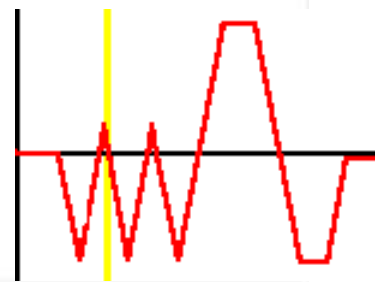
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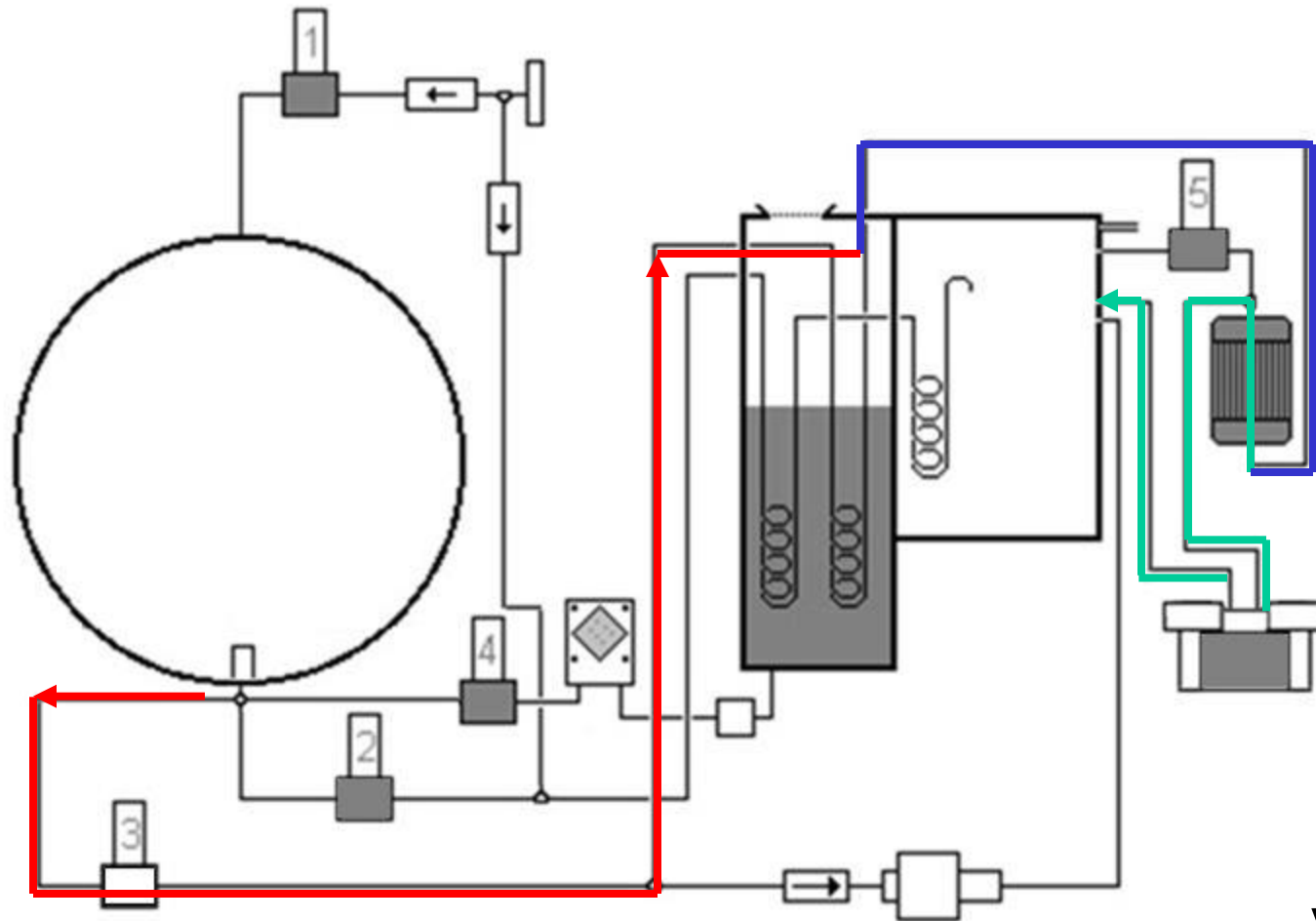




..after 2 seconds V5 closes..

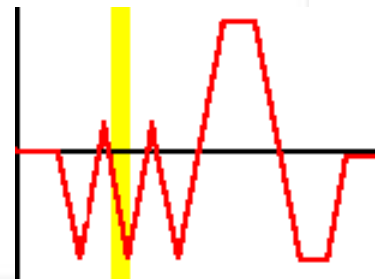
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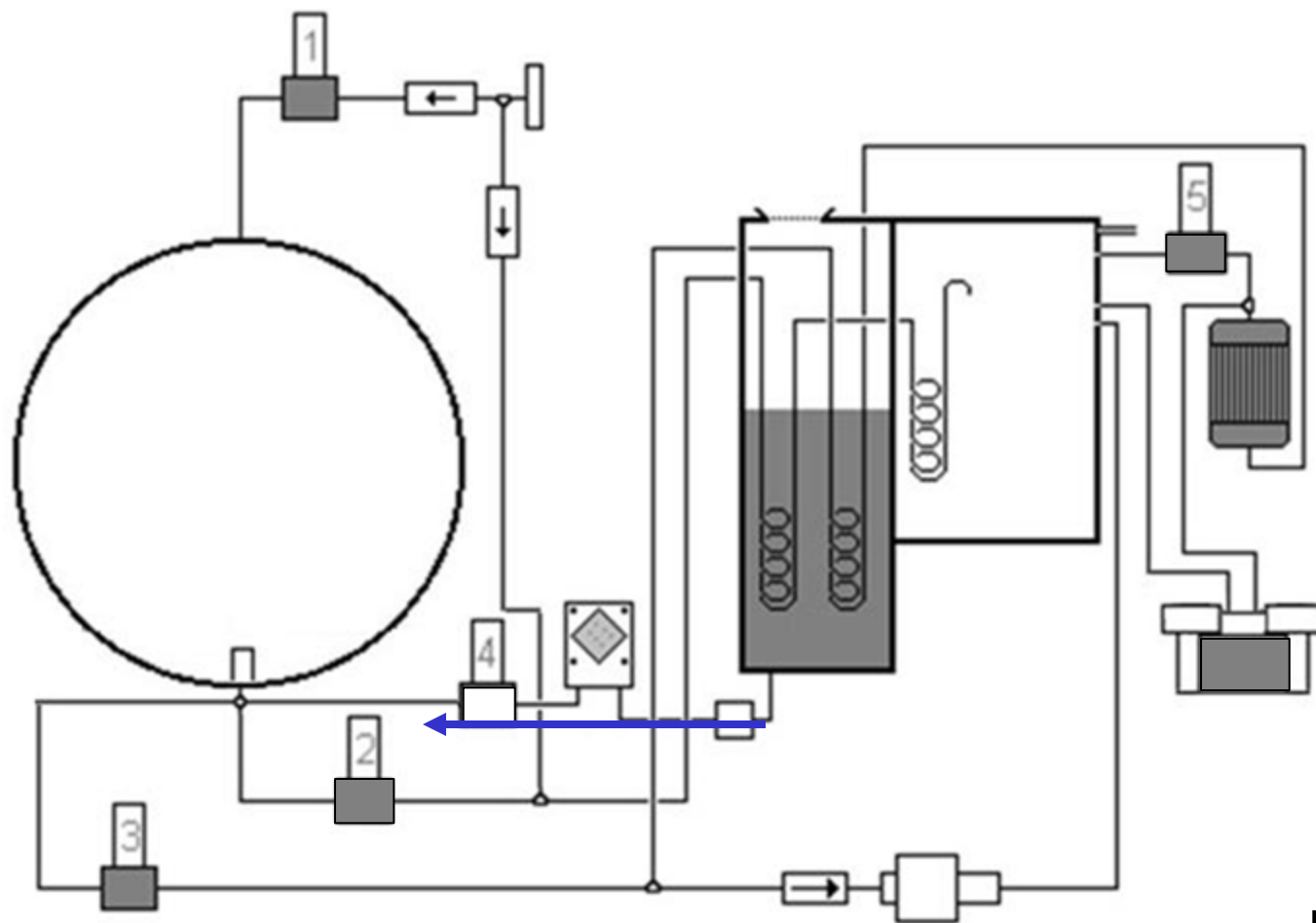




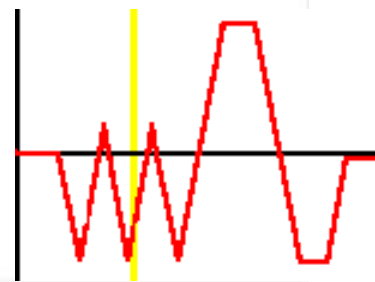
..and after 2 seconds V3 opens: steam, air and water are exhausted from the chamber, the radiator separates the air from the water

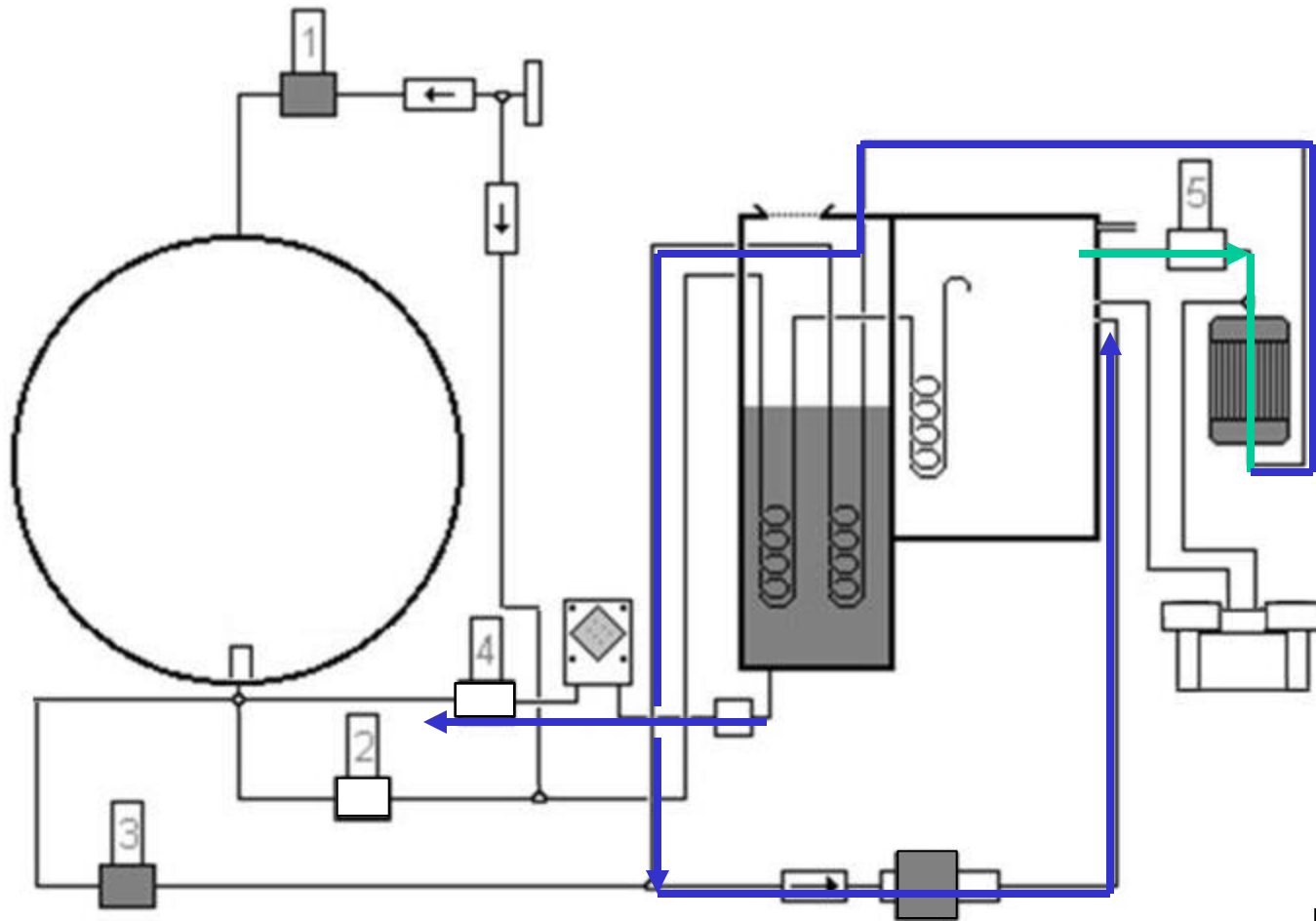
VACUUM





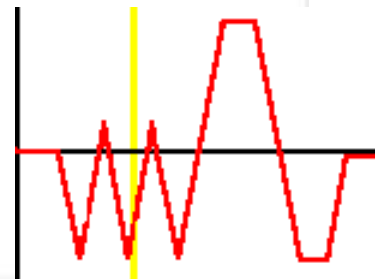
H2O FILL

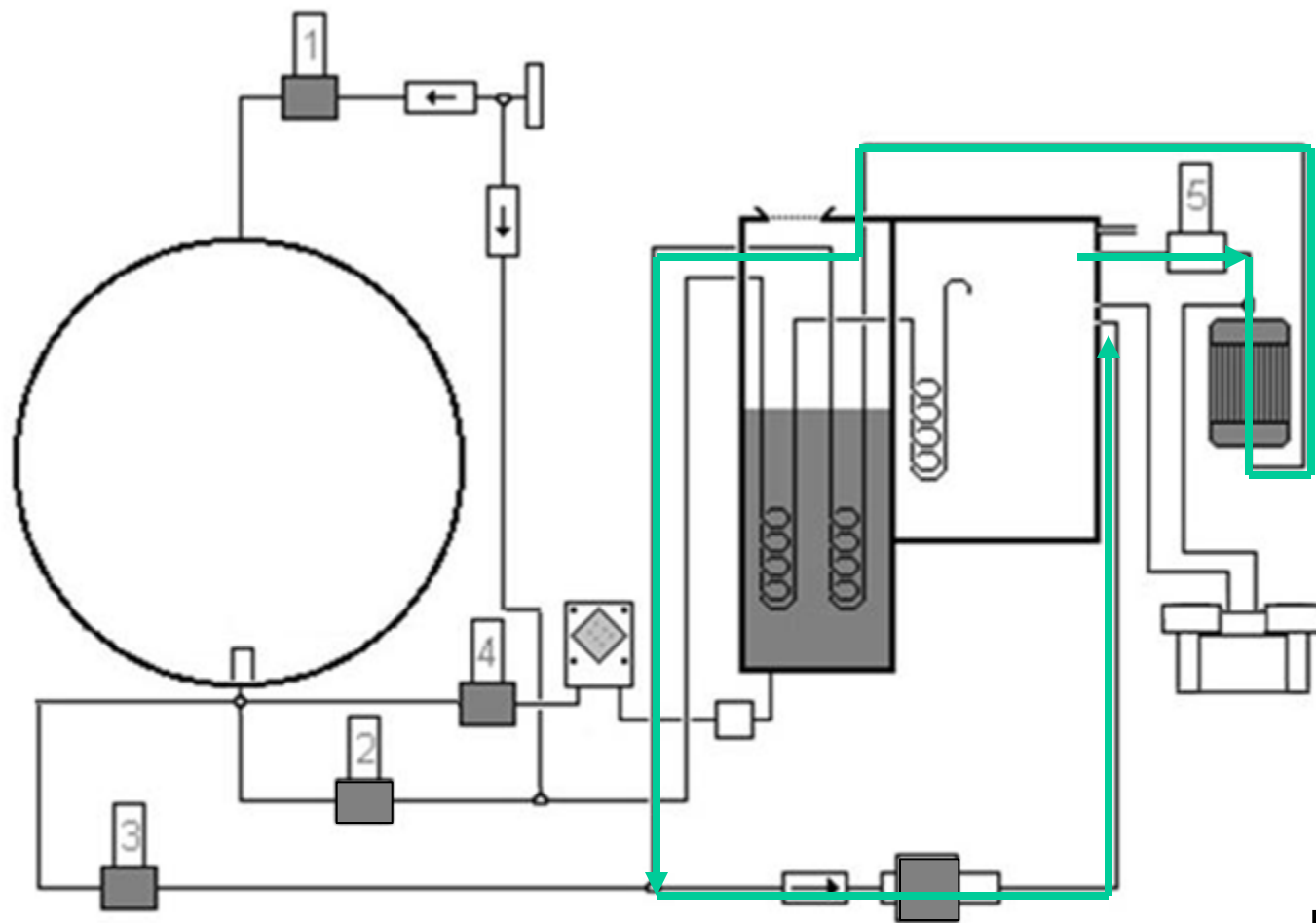




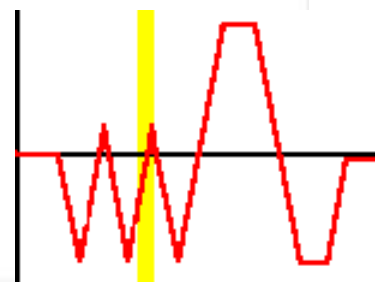
V5 opens and drain pump removes the water condensed in the radiator

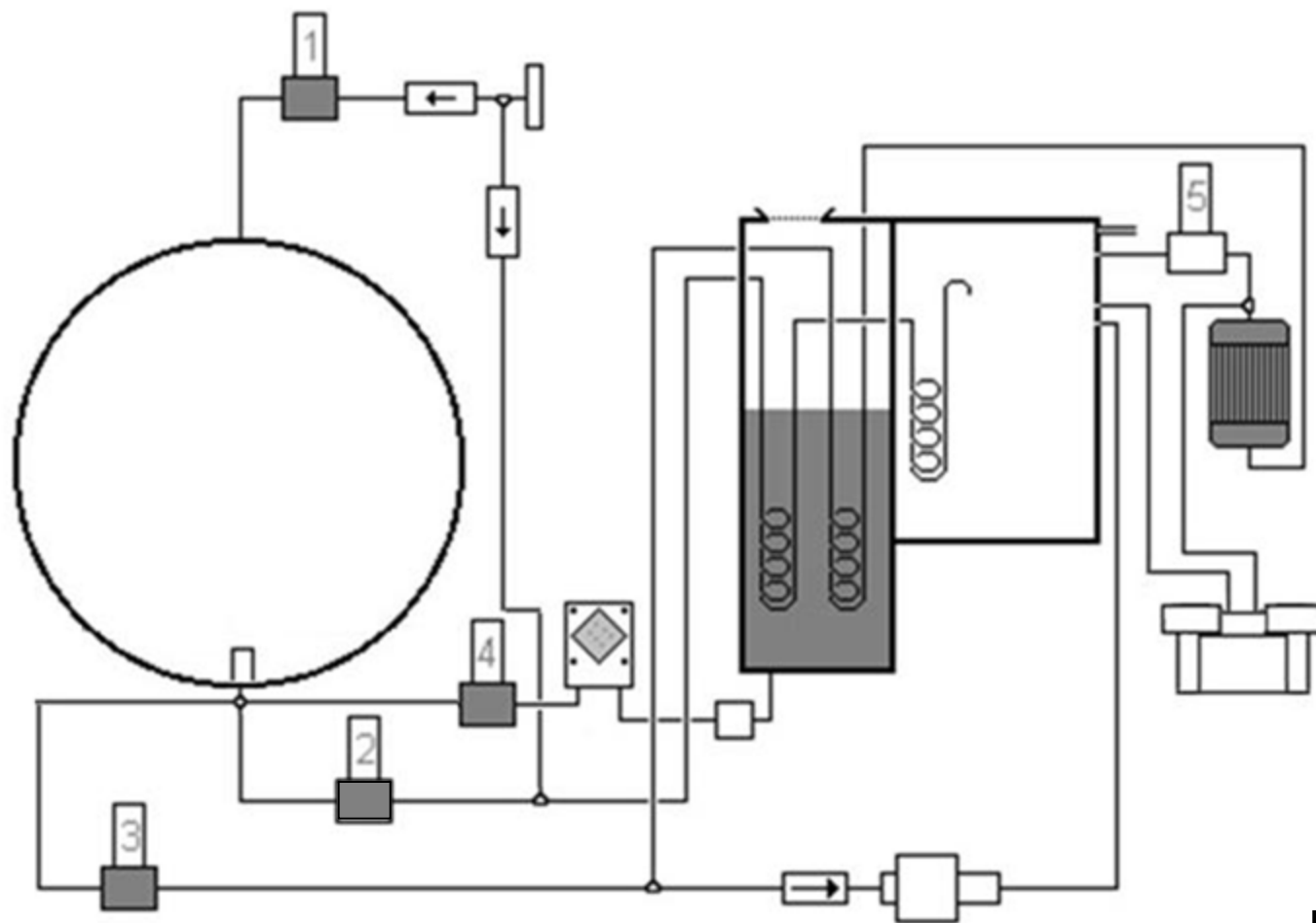
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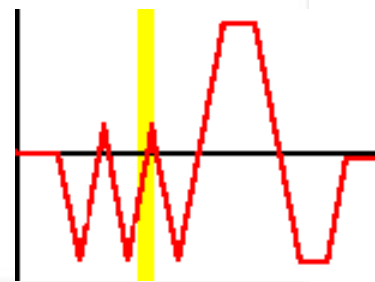


HEATING



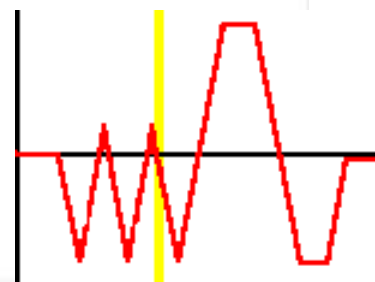


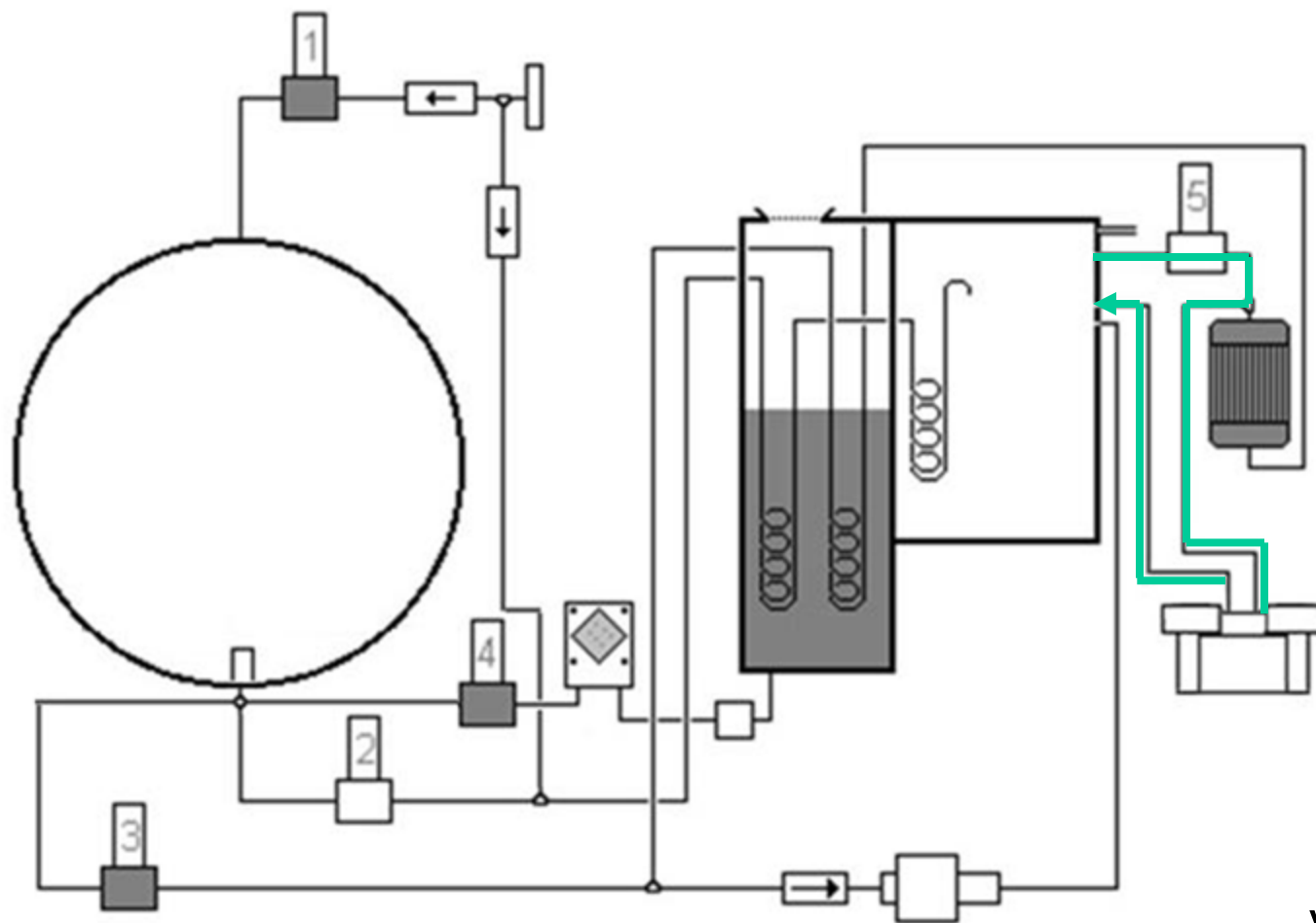
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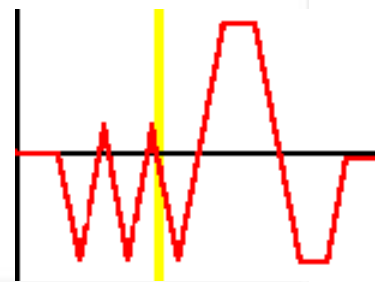
DRAIN

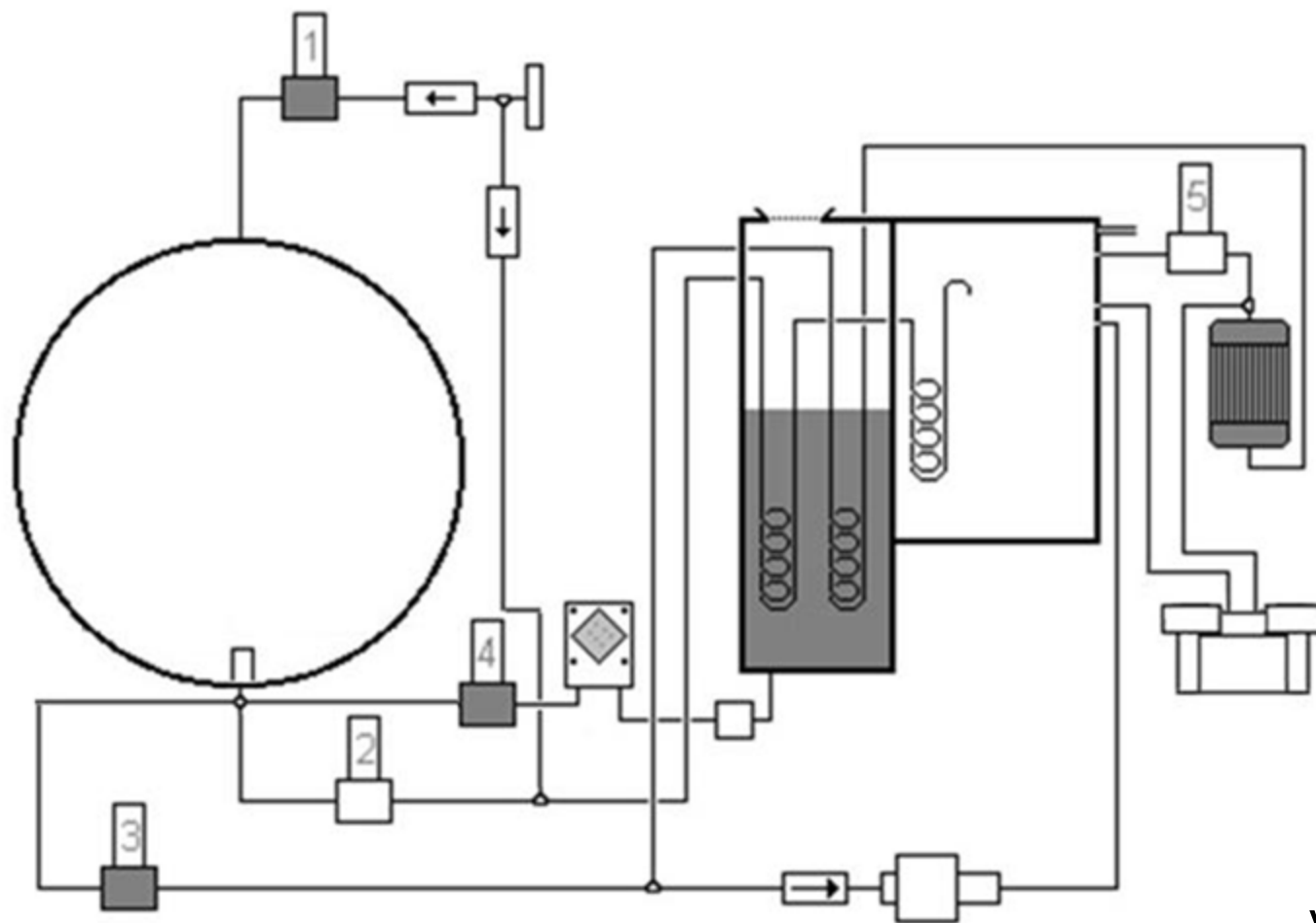
...again..



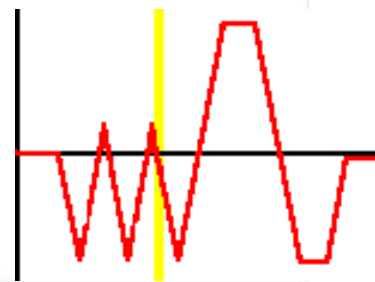


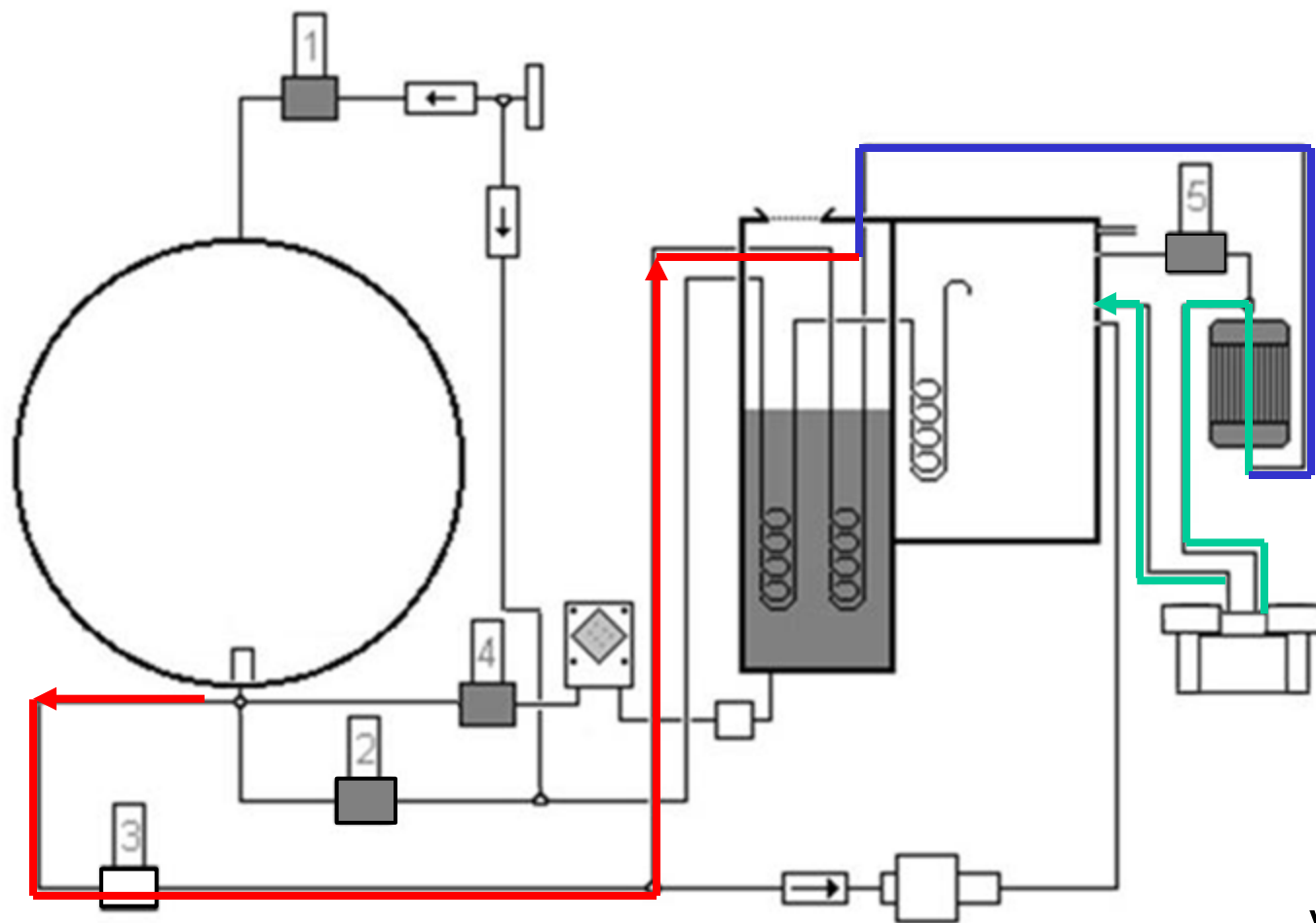
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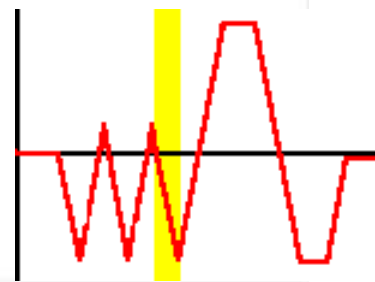


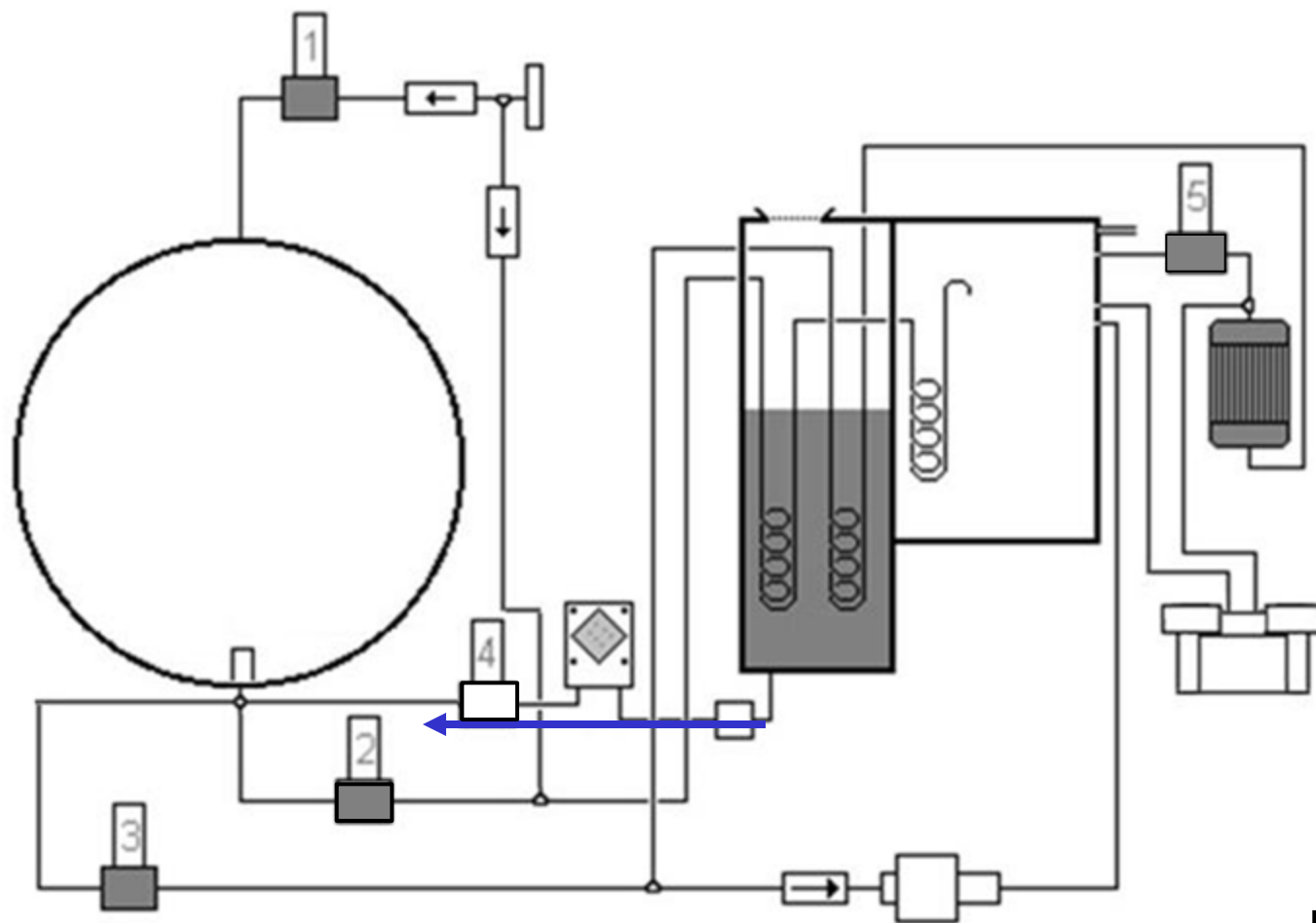
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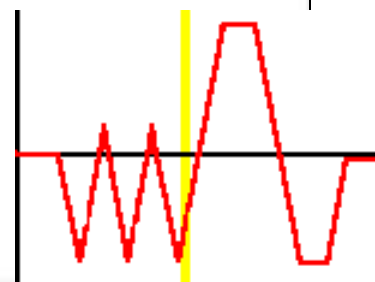


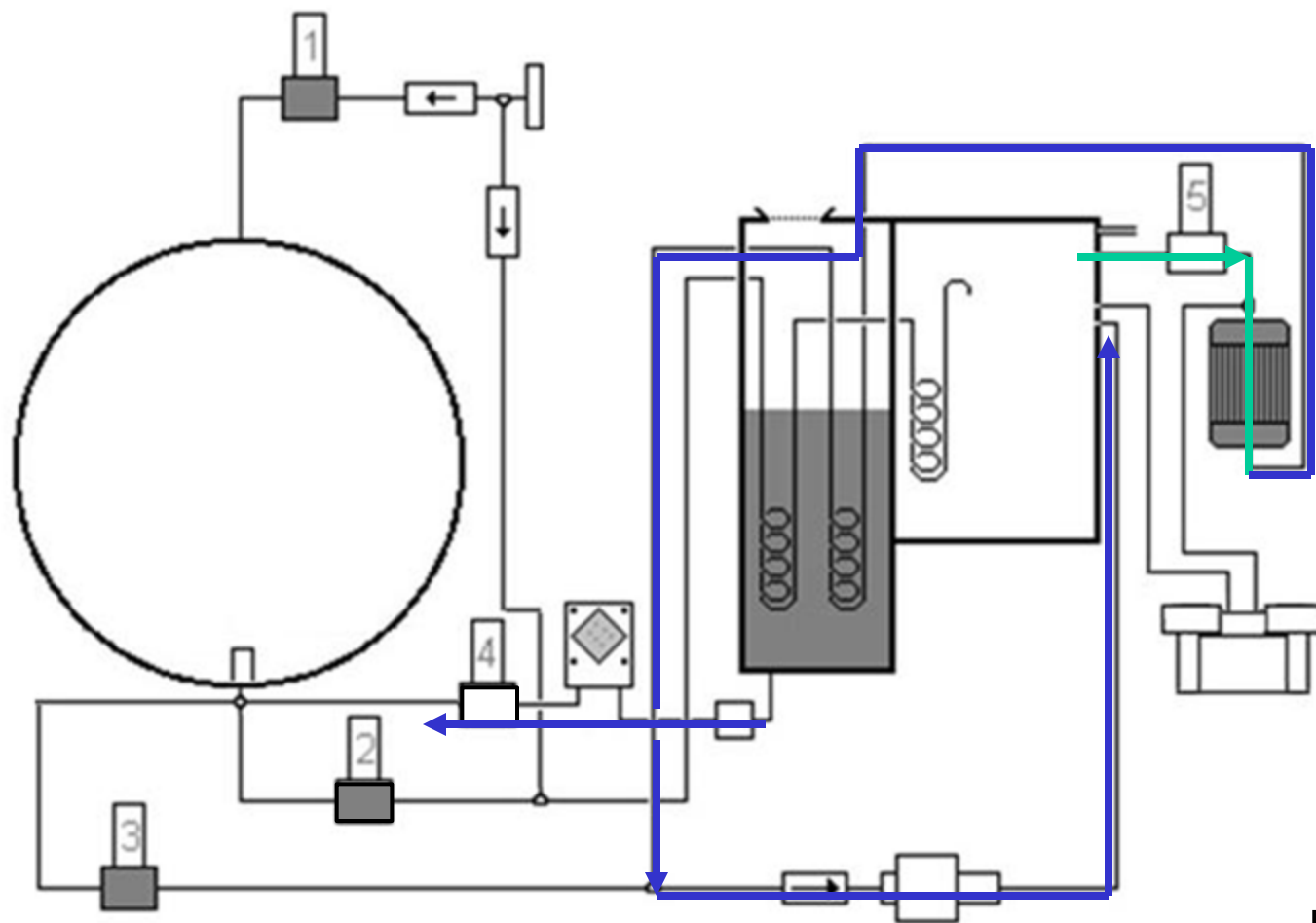
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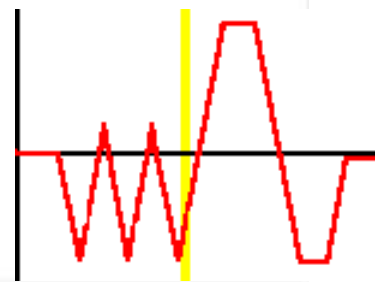


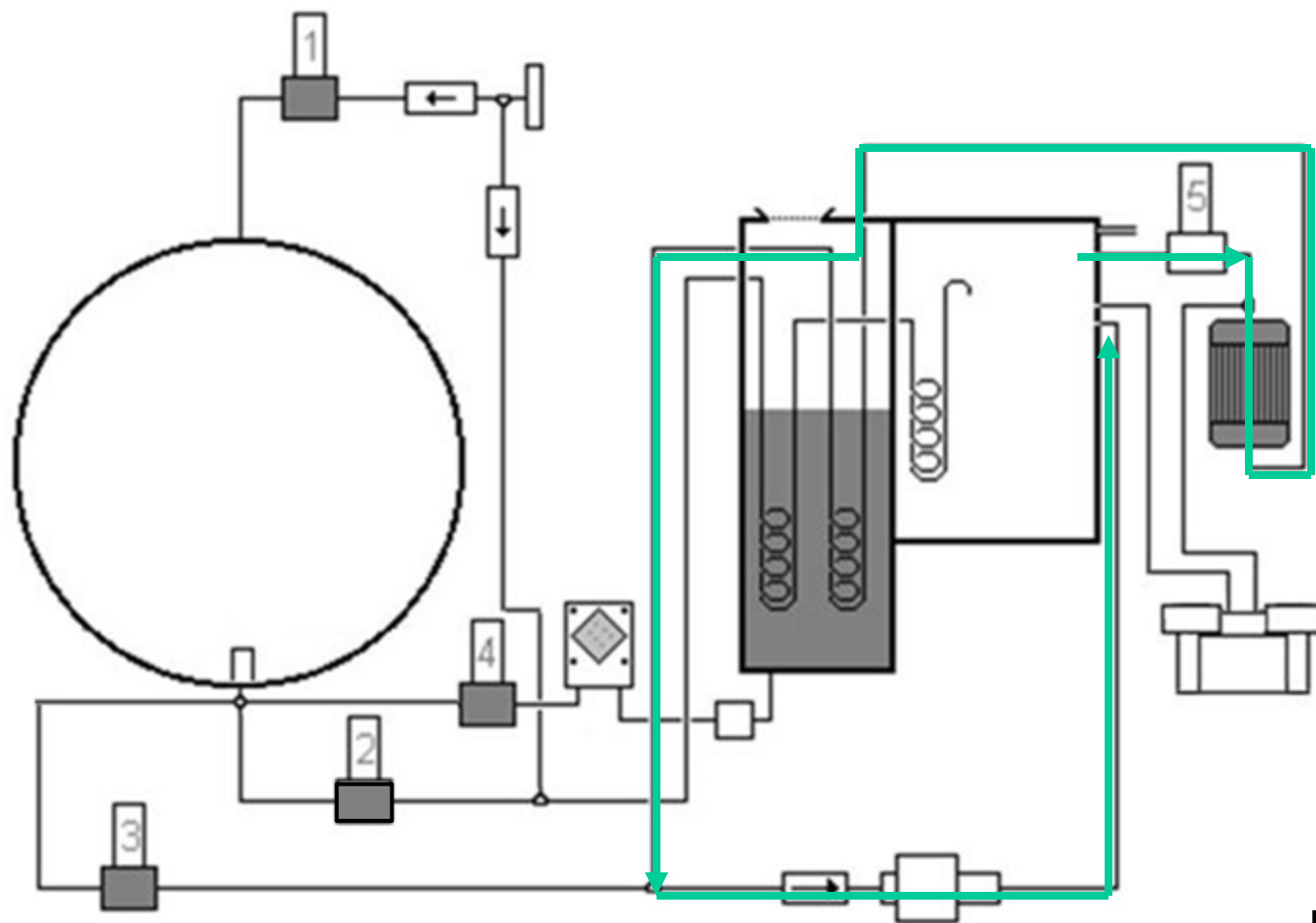
H2O FILL



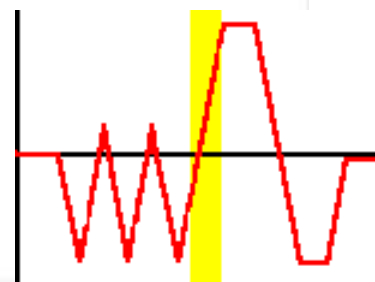


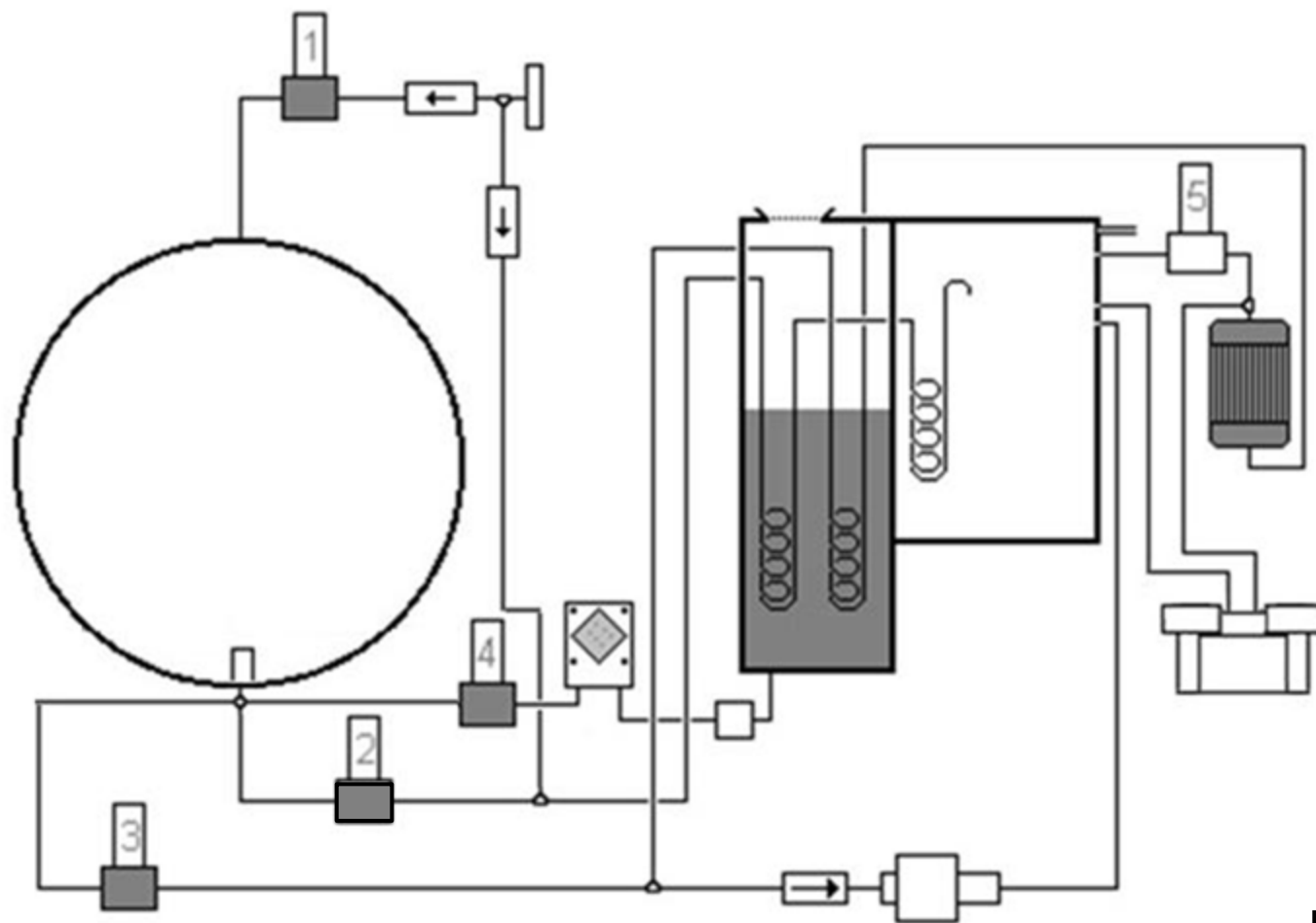
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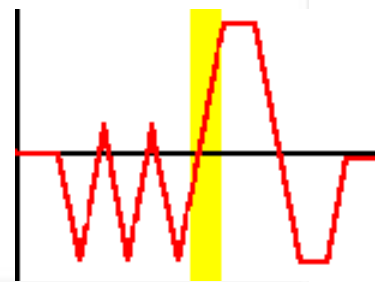


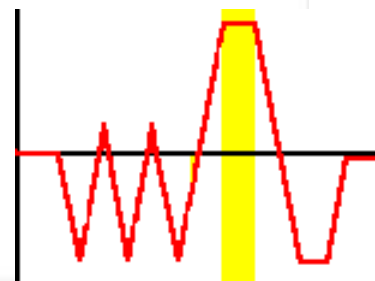
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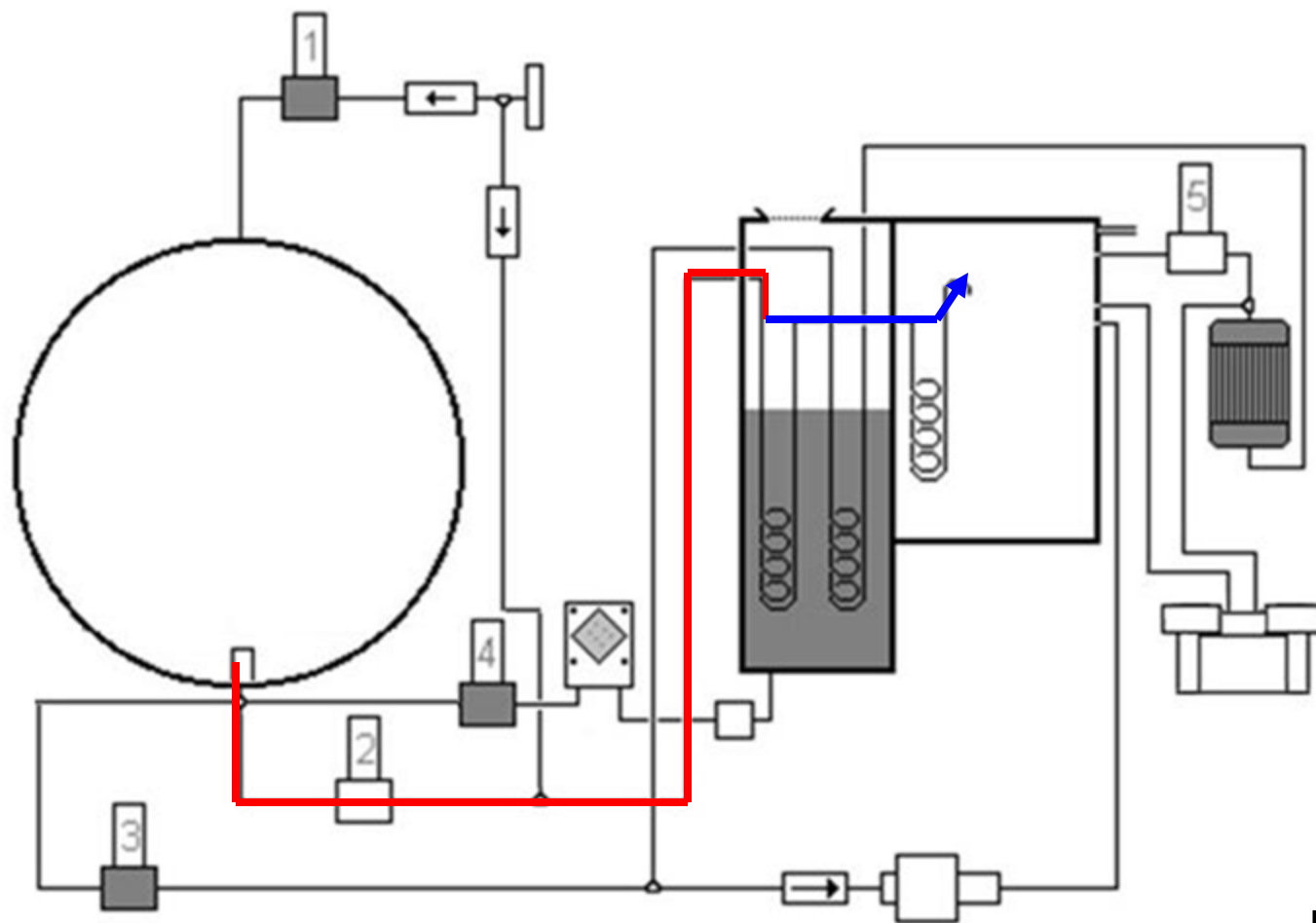




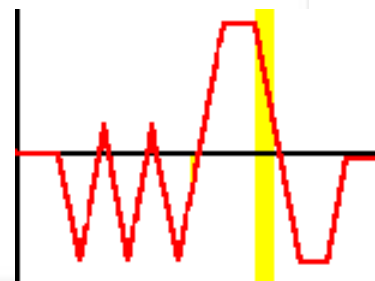
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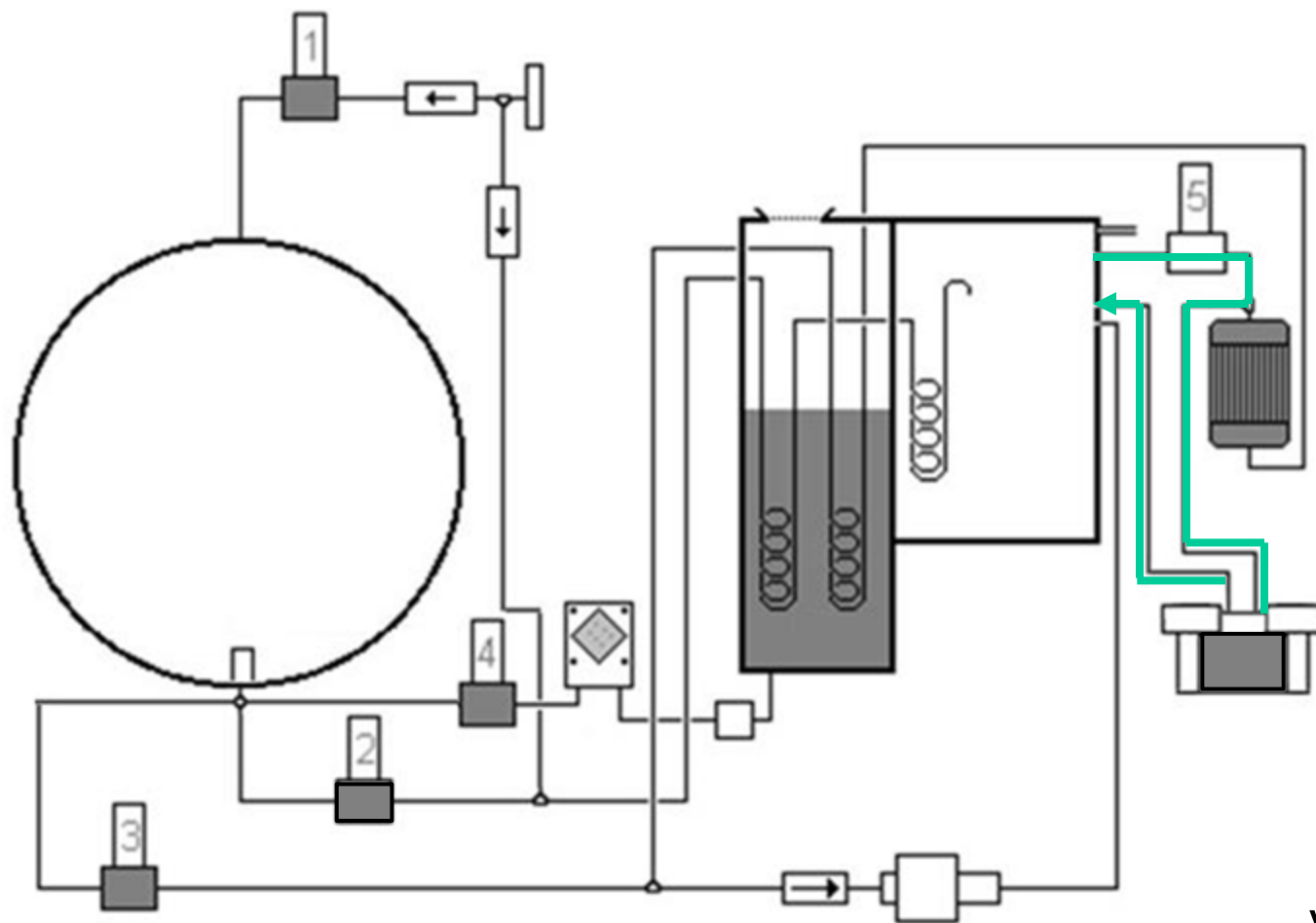




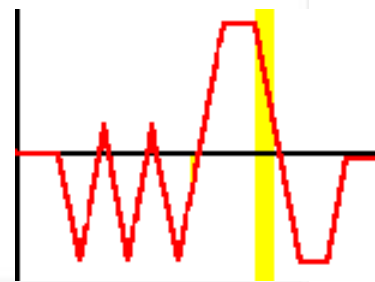


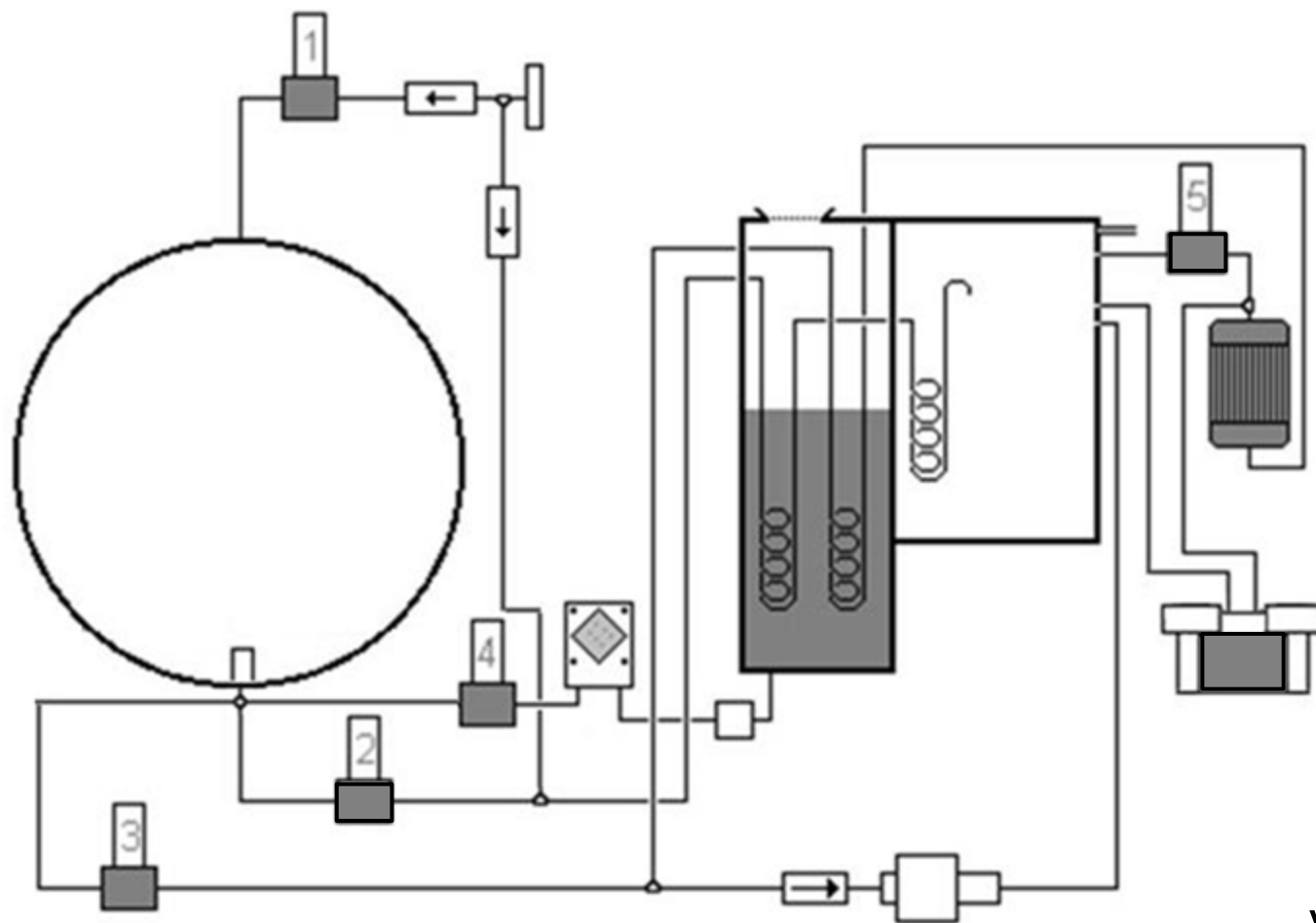
DRAIN



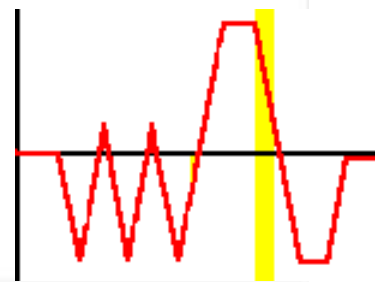


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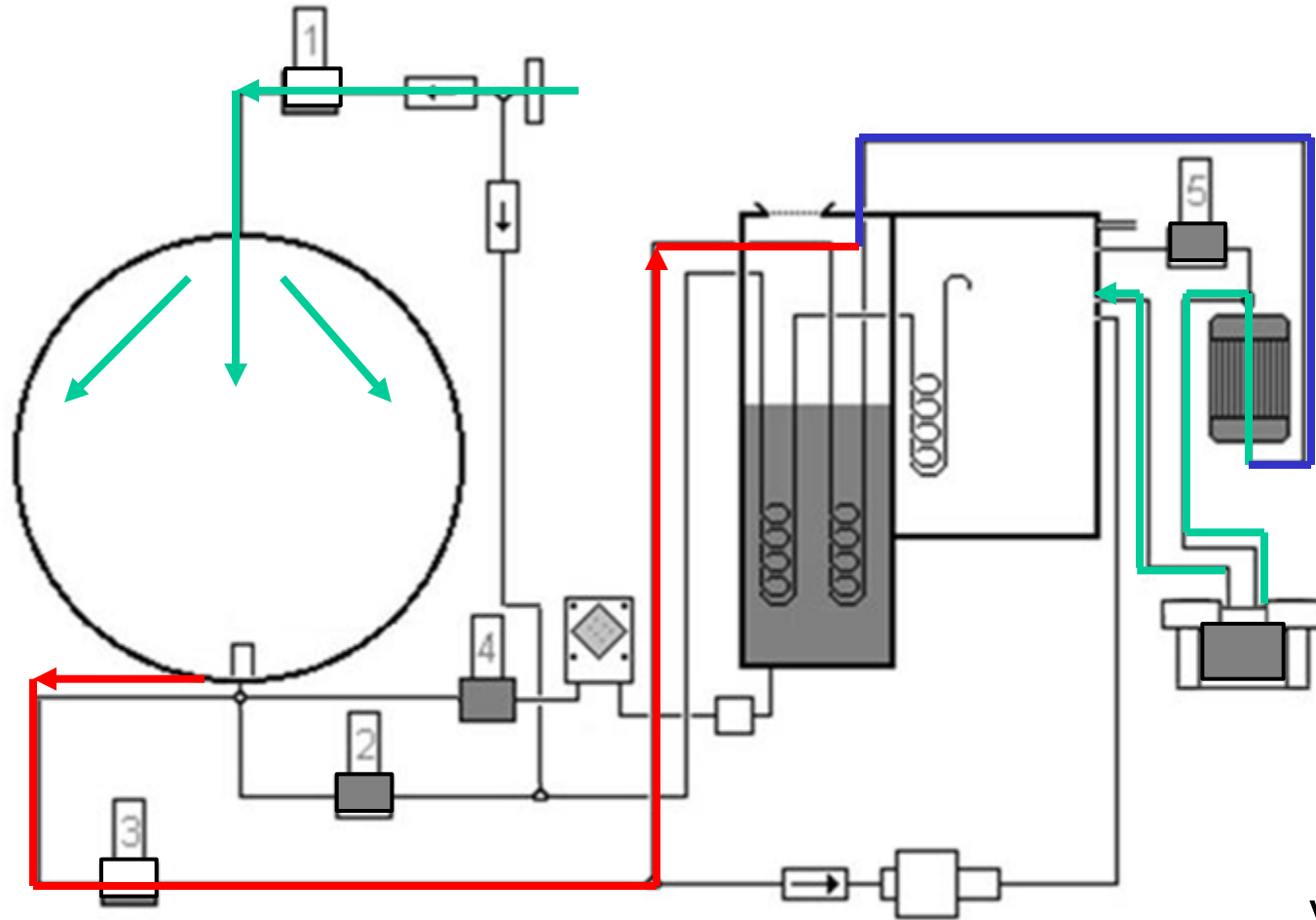




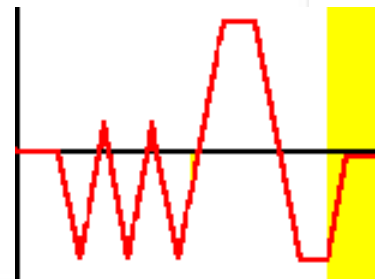
VACUUM

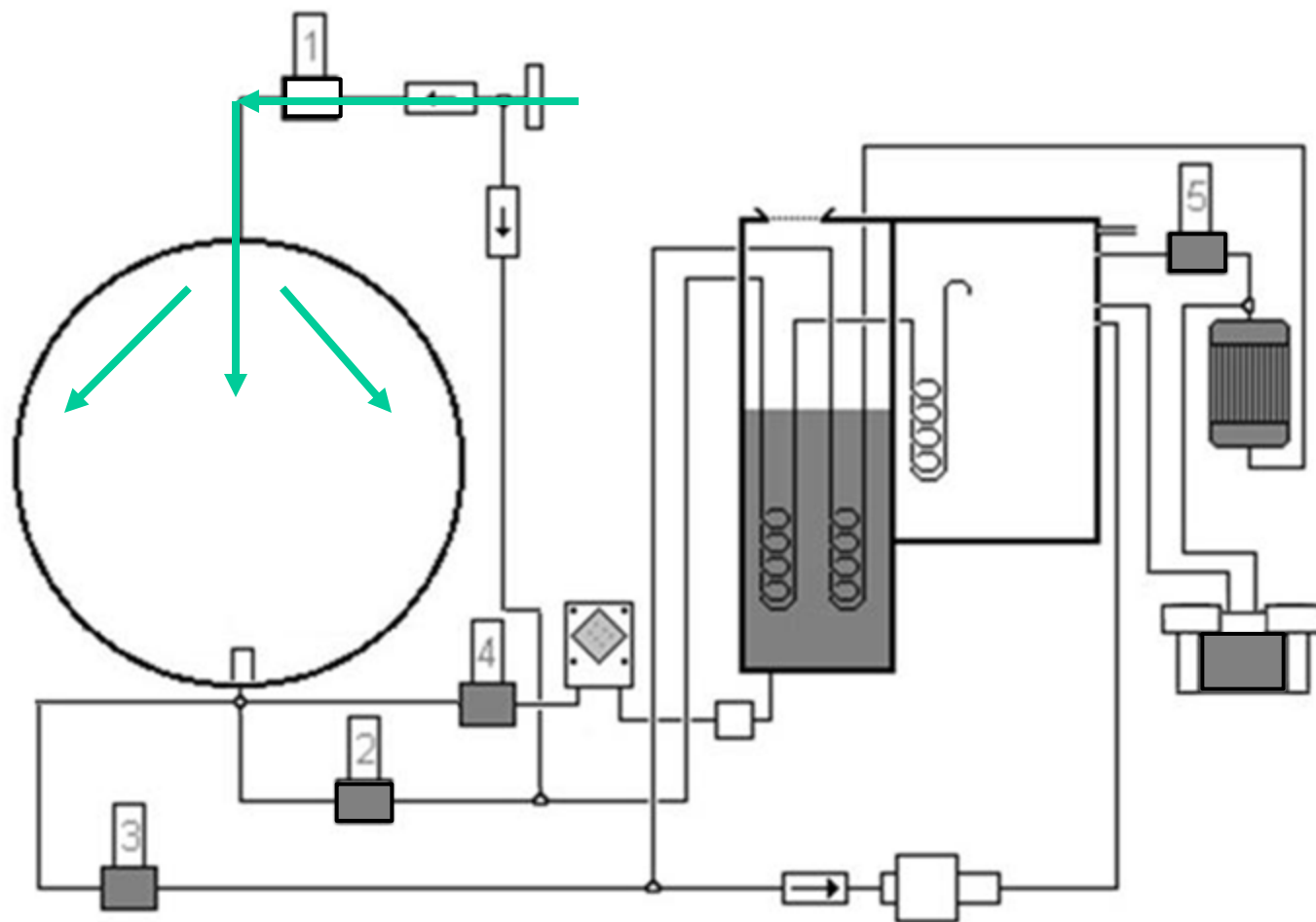


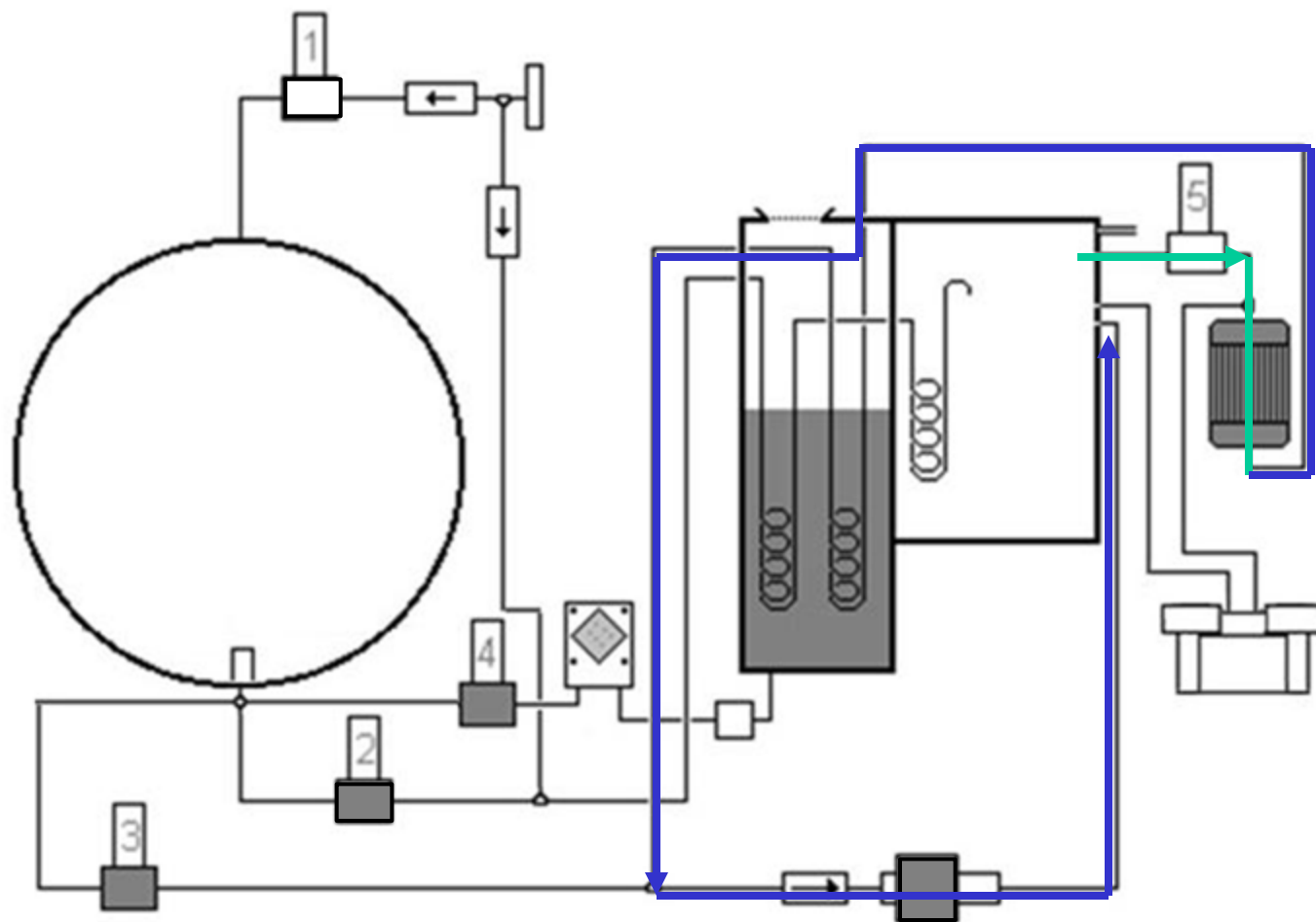
DRYING

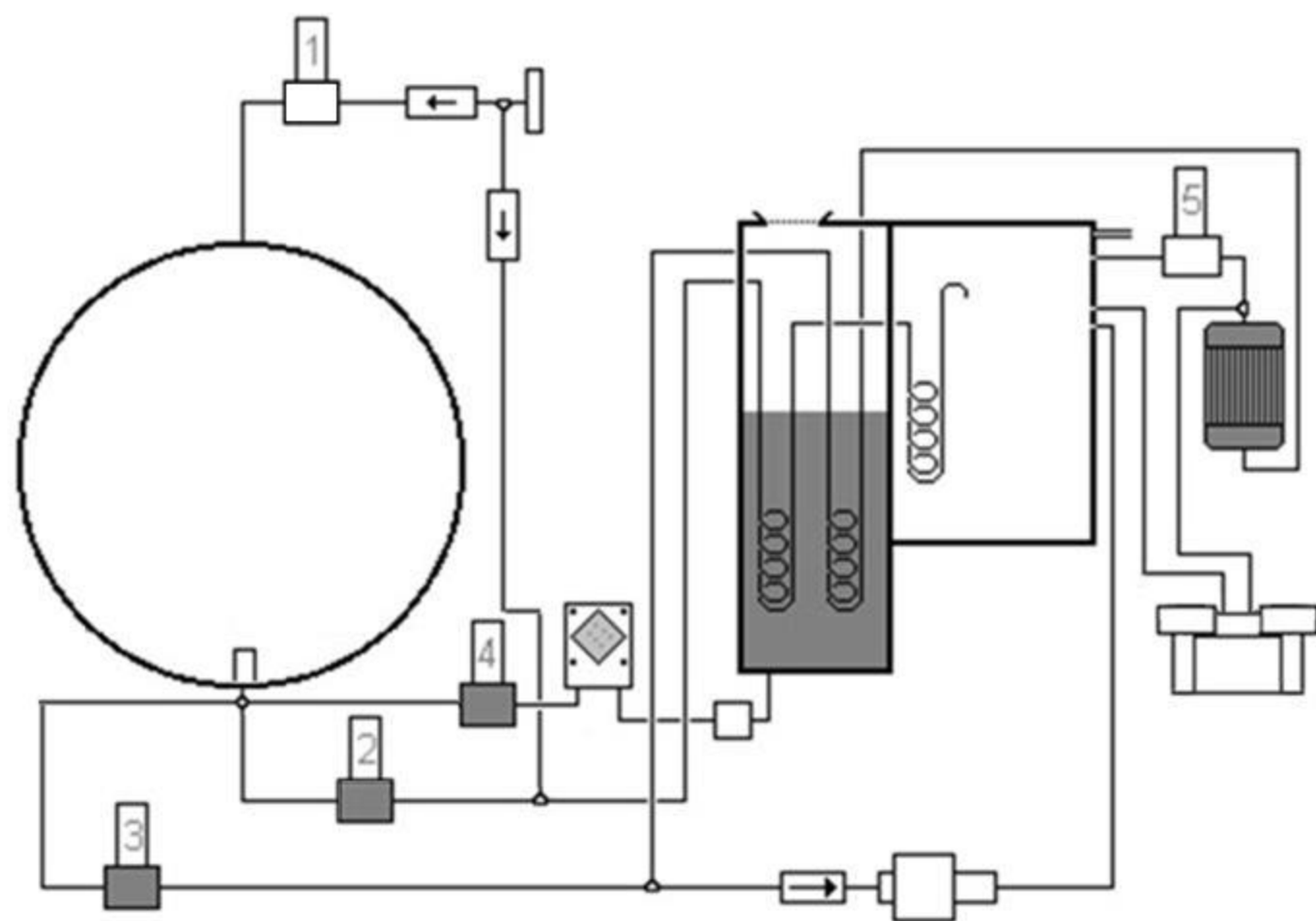


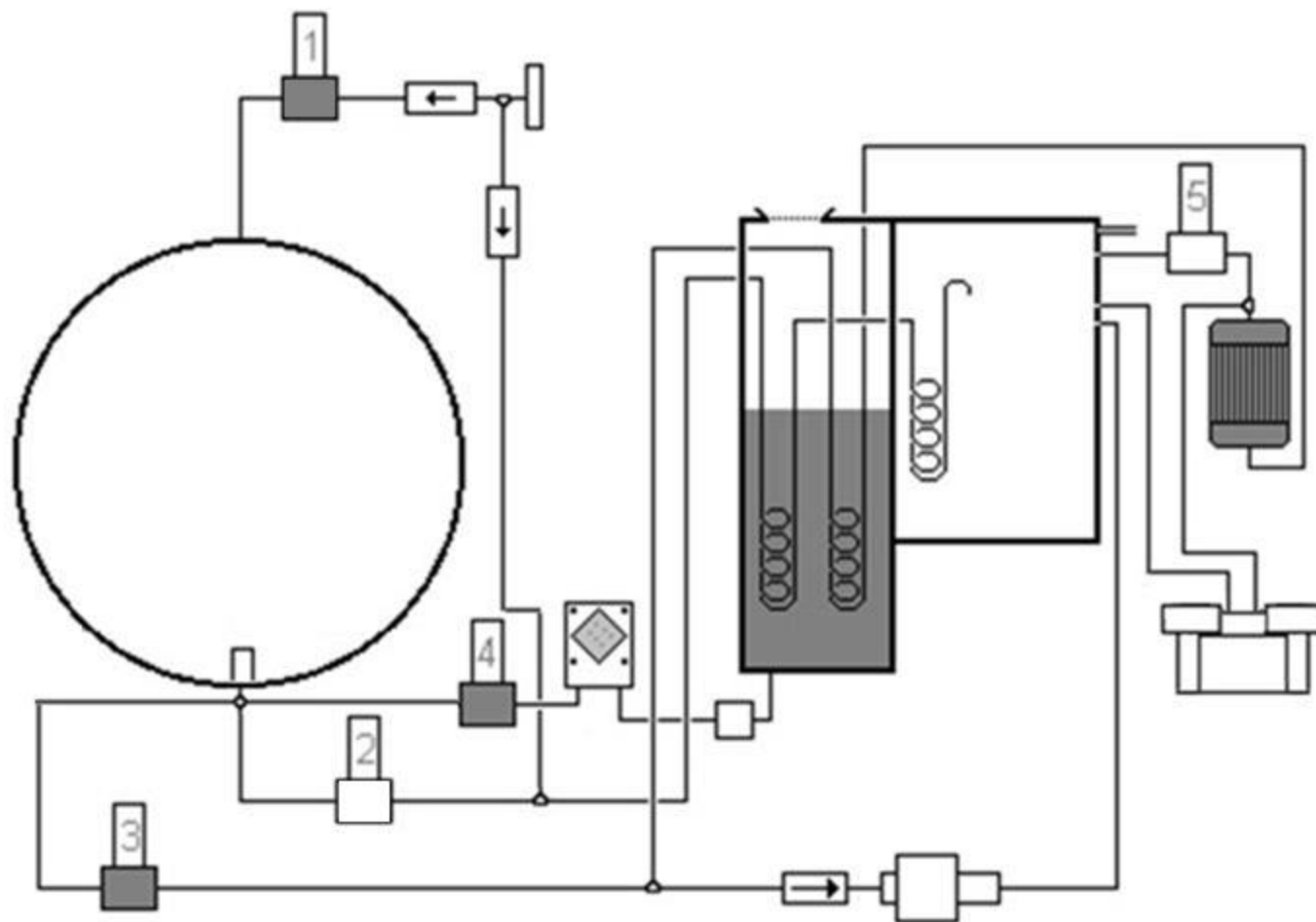
VENTILATION











End



INTERNAL VIEWS





Upper surface sensor
and protection thermostat

The image shows the internal components of a machine, likely a washing machine or dryer. A large white cylindrical drum is the central feature. Above it is a metal panel with a white box containing sensors and a thermostat. To the right, a bundle of orange cables is connected to a control board. At the bottom, there is a drain pump and two solenoid valves. Various hoses (white, orange, blue) connect these components. The entire unit is housed in a grey metal frame.

Drain
pump

5

1

5

Drain
pump

1

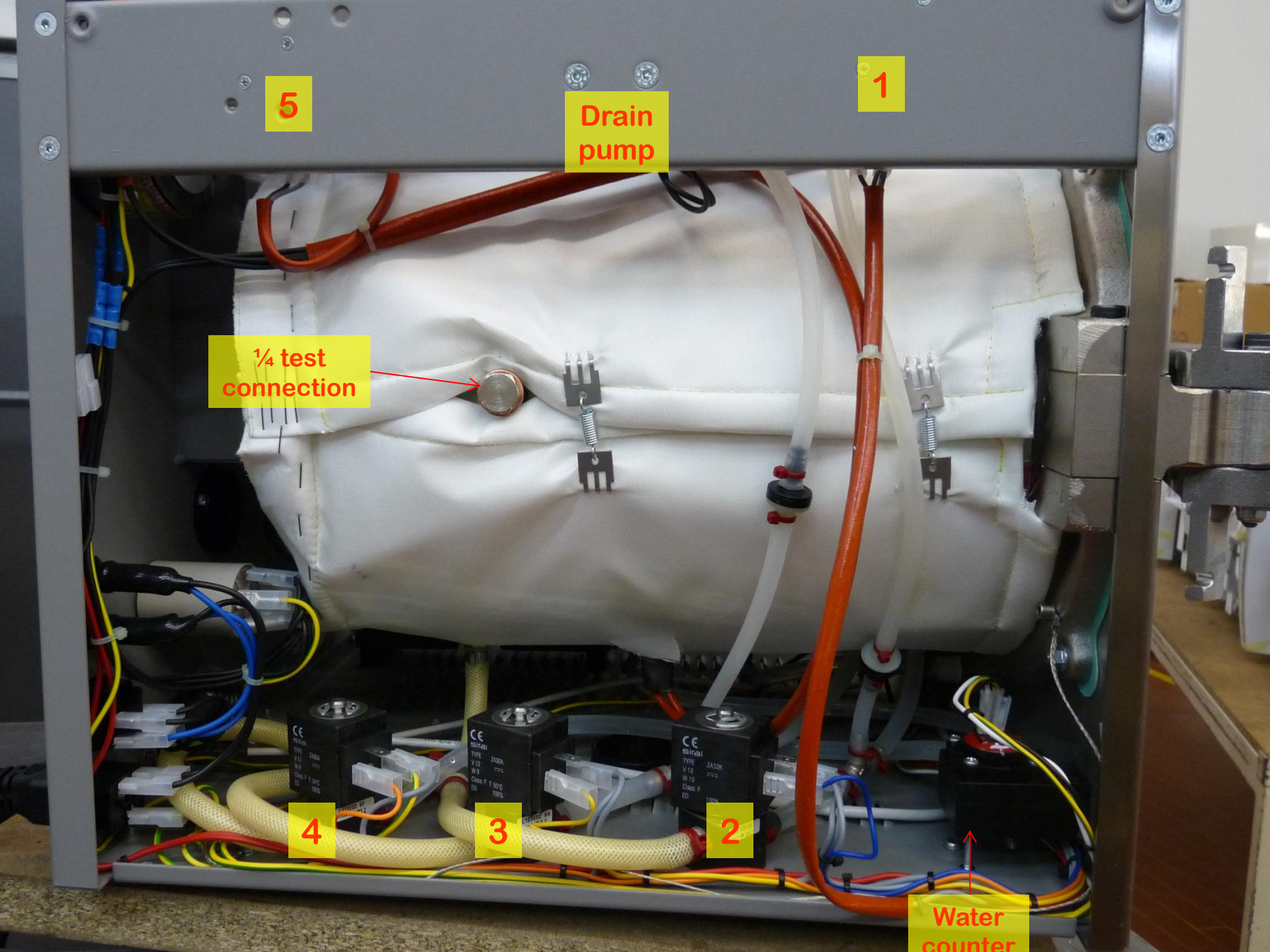
$\frac{1}{4}$ test
connection

4

3

2

Water
counter



Bacterial filter

NOT FOR FLUID
STERILIZATION



DOOR SWITCHES

Handle switch

Lock switch

**Door lock
solenoid**

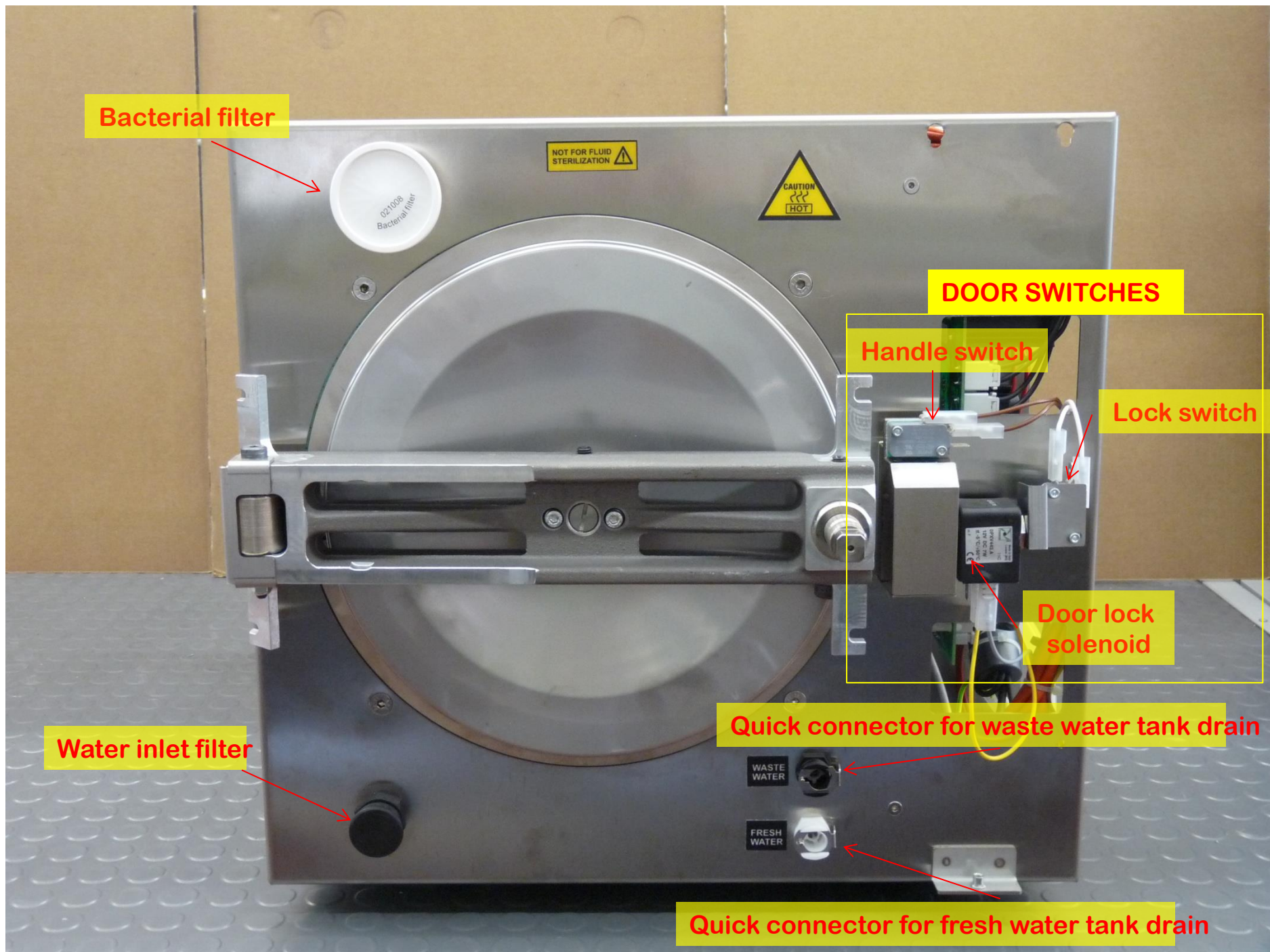
Water inlet filter

Quick connector for waste water tank drain

WASTE
WATER

FRESH
WATER

Quick connector for fresh water tank drain





Fresh water
recervoir

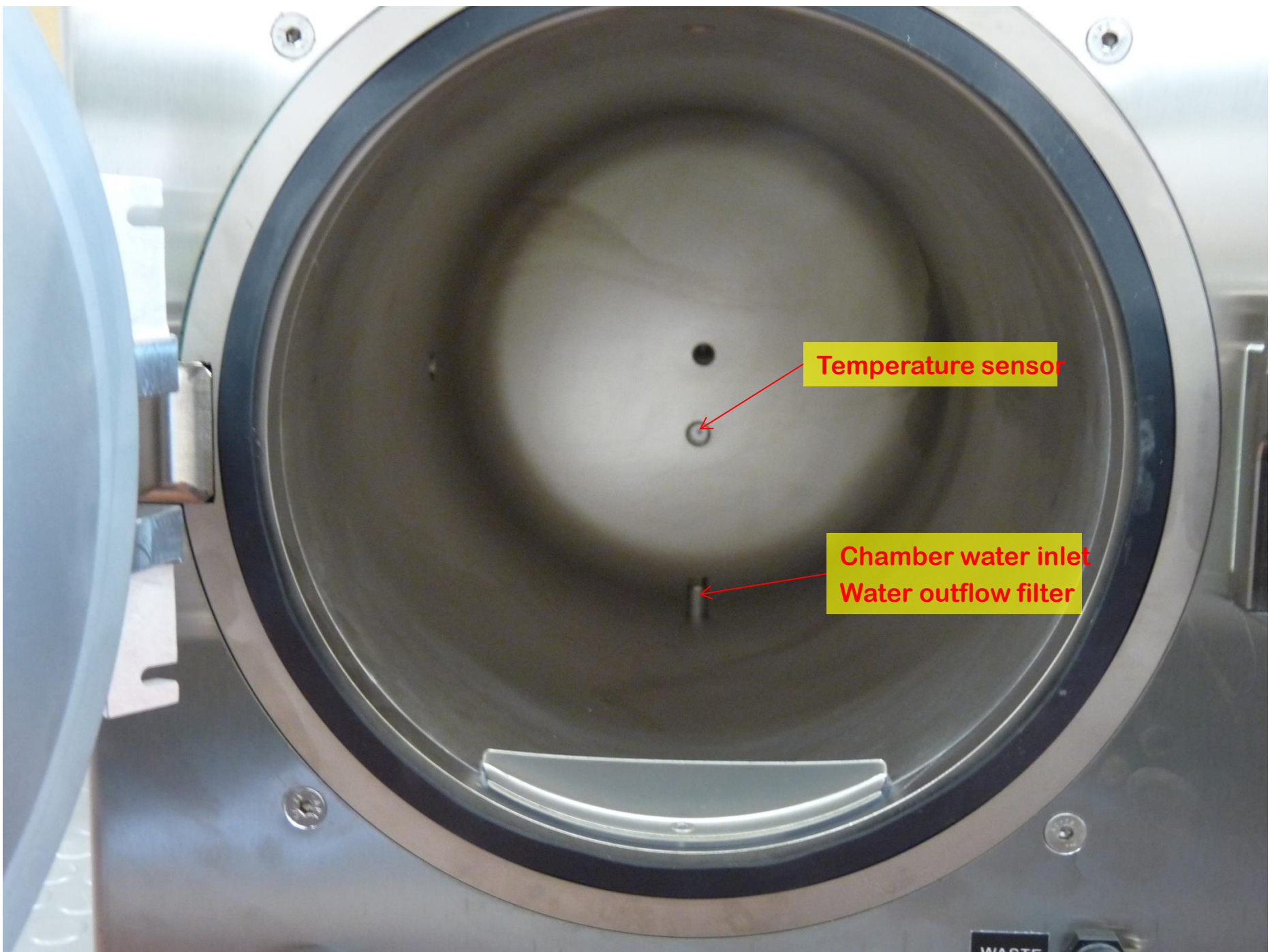
Waste water
recervoir

Fans

Radiator

Main board

Vacuum pump



Temperature sensor

Chamber water inlet
Water outflow filter

WASTE

Air exhaust

Used water
sink connection

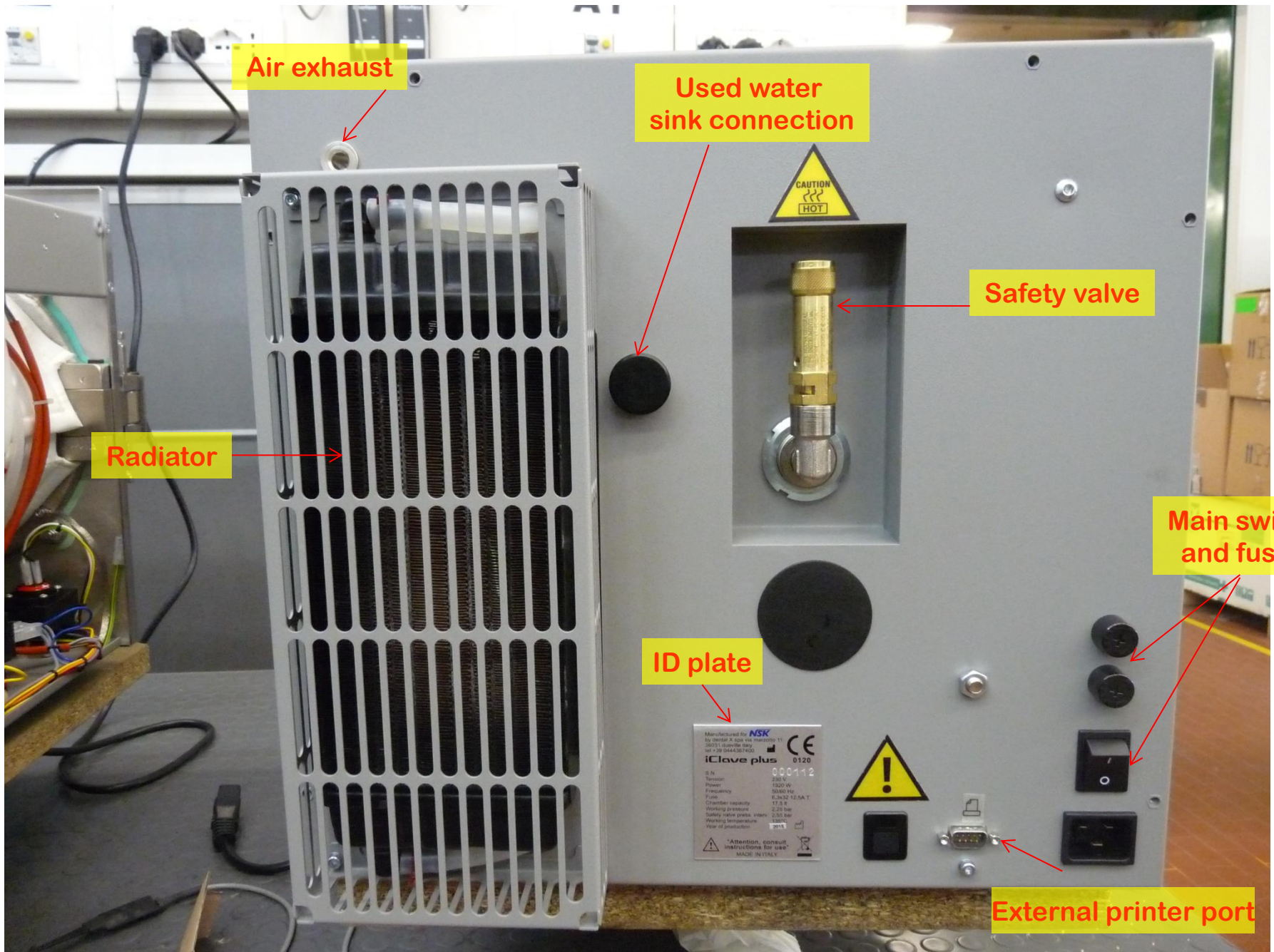
Safety valve

Radiator

Main switch
and fuses

ID plate

External printer port



EV1

EV2

EV3

EV4

EV5

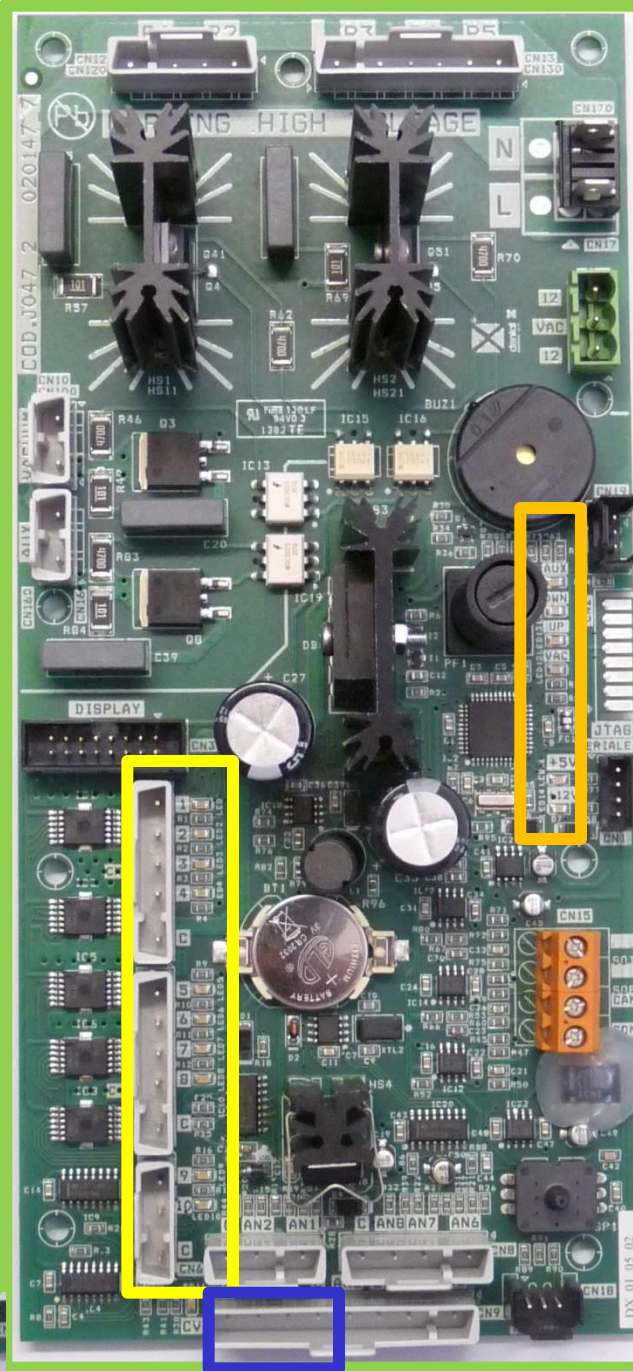
FANS

NOT USED

DOOR LOCK

NOT USED

WATER
COUNTER



DRAIN PUMP

LOWER HEATER

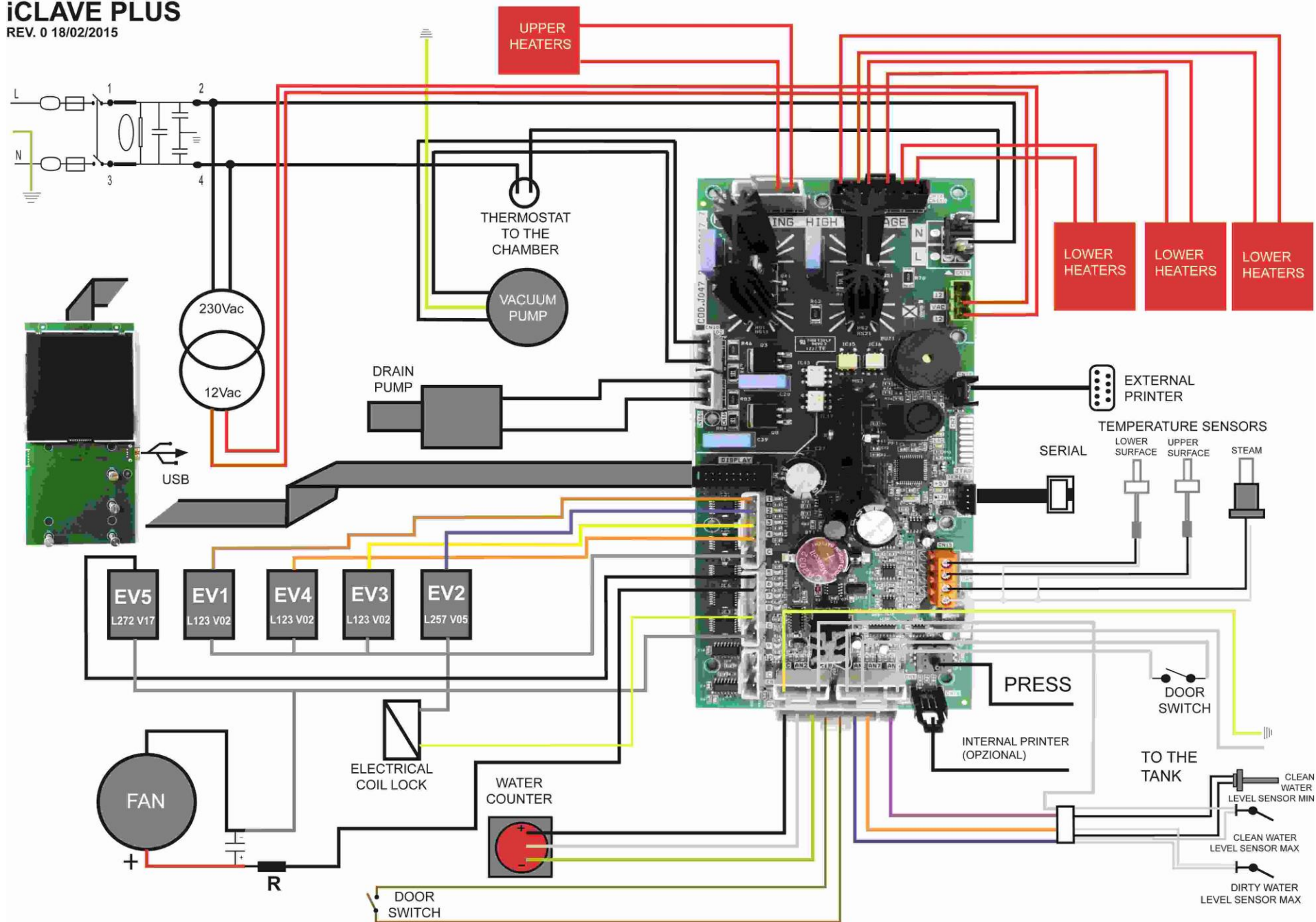
UPPER HEATER

VACUUM PUMP

+5V

+12V

REV. 0 18/02/2015





TROUBLESHOOTING

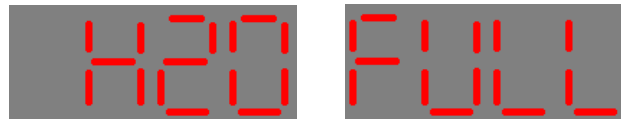


ALARMS

There are three levels of signals.

Some messages are displayed using alphanumeric codes.

For example this message means that the recovery water reservoir is full.



The second level of indications warn that something doesn't work perfectly but the sterility of the load is warranted.

These messages disappear opening the door.



The message FAIL followed by an indication AL with a number means that the cycle is interrupted and failed, the load is not sterile. All the active components are turned off and the door remains locked until START STOP is pushed



MESSAGGES

NEED CLEANING

NEED SERVICE

ADD H2O FULL H2O

H2O GOOD H2O HARD

OPEN DOOR

DRY FAIL

NEED INST

ALARMS AL

AL1 AL2 AL3 AL4

AL5

AL6

AL7

AL8

AL9

AL10 AL11

AL12

AL13 AL14 AL15

AL16

AL31

ALARMS CD

CD1

CD2 CD3

CD4

CD5

CD6

CD7

NEED CLEANING

This message appears every 60 cycles

The autoclave works properly, but the message will disappear only when the maintenance will be done correctly and it will be displayed again after 60 cycles.

Read the paragraph MAINTENANCE of the user manual.

H2O FULL ADD H2O

These messages means the was pushed the START button with the indication **MIN** of the fresh water or **MAX** of the waste water. It is necessary to empty the waste water reservoir and to fill the fresh water reservoir before to run a cycle.

It is suggested to fill and empty at the same time so there will be always 4 litres of water in the unit: the cooling will be better, the vacuum time shorter and the humidity in the room lower.

H2O GOOD

H2O HARD

These messages indicate the quality of the water in the clean reservoir.

Turning on the autoclave, if the chamber is cold and the clean water reservoir is full, a measure of the conductivity is done.

The switch level from good to hard is **15 microSiemens**.

The autoclave permits to run cycles also if the water conductivity is too high, it is an operator's decision to run cycles with water that can damage the instruments.

OPEN DOOR

It means that the START button was pushed with the door not properly closed.

NEED INST

This message appears trying to turn on the autoclave without following the correct procedure of installation.

The sequence must be:

- The door must be close and the fresh water reservoir must be filled over the minimum level.
- Hold on the key **UP** and push the key **Power**.

It is possible to force again the message **NEED INST** pushing together **4** and **POWER** from off condition.

This function was designed for the following transfers of the autoclave for service or maintenance in a service centre.

Sometimes the user forces again the unit in **NEED INST** running the maintenance cycle pushing the wrong buttons, just repeat the installation procedure to delete the message.

NEED SERVICE

After one year from the installation date (or before is 2000 cycles are done), this message indicate that it is time for a special maintenance and for a check of the calibration.

It is enough push a button to cancel this message and use the autoclave, but it will appears again at the next turning on.

To cancel completely this message (for one year) it is necessary to press together the first three program buttons from the off condition. This function was inserted for follow the request of periodical validation of the sterilisation process.

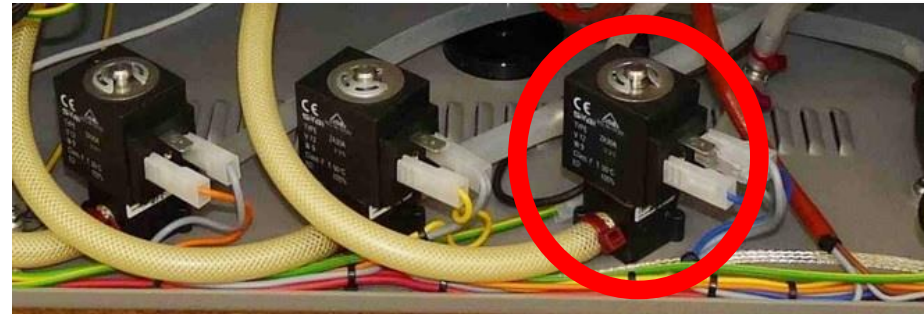
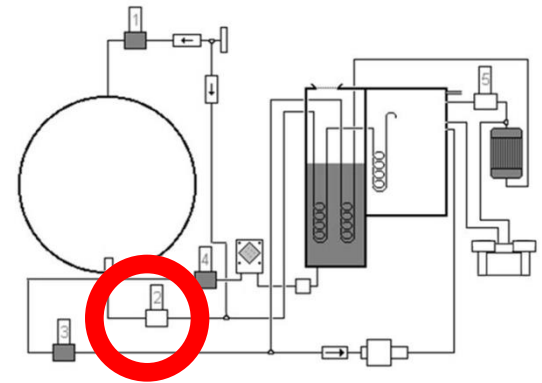
A common trouble that comes out in the first weeks of use is caused by the user that changes involuntarily the setup of the clock increasing the YEAR adjustment, in this case the unit “thinks” that is time for service: it is enough to adjust correctly the clock to eliminate the message

CD1

This alarm appears if the drain time is longer than 4 minutes.

Cause: the **drain filter** in the chamber is dirty, clean it or replace it, eventually run the maintenance cycle.

If the problem is not solved, verify if there are closed hoses or foreign parts in the **valve 2**.



CD 2 and CD3

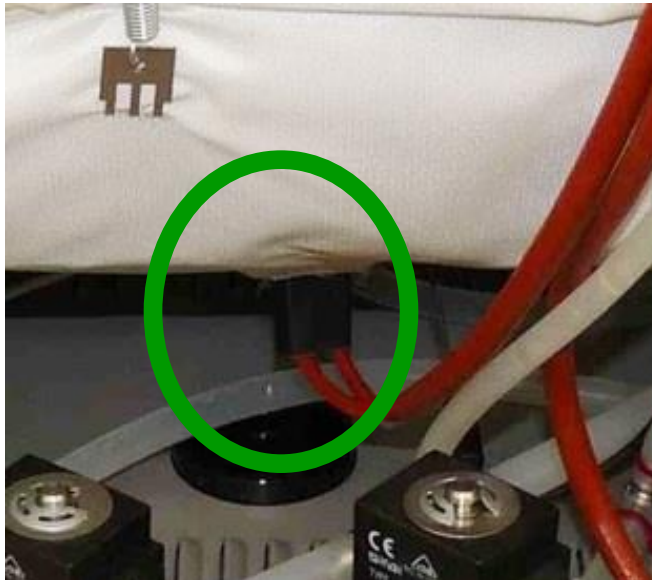
The heating time was longer than 25 minutes

Cause: the most probable is that the line voltage is too low, verify if it is in the limits (230V +/- 10%).

An excessive load may cause this alarm.

**Check the wiring, the heater connection and the protection
thermostats.**

Lower



Upper

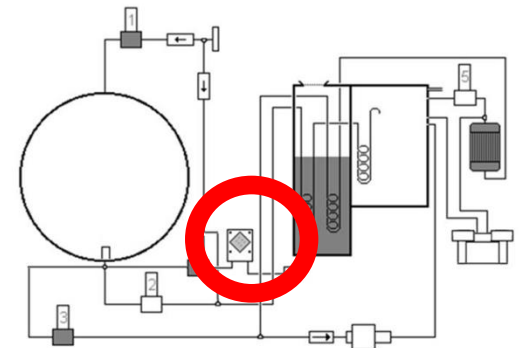
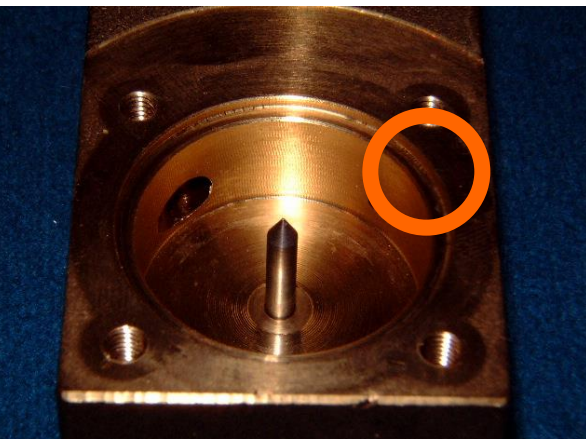


CD4

The water filling phase has reached the time limit of 50 seconds.
Cause: the water **filter** is obstructed, clean or replace it.



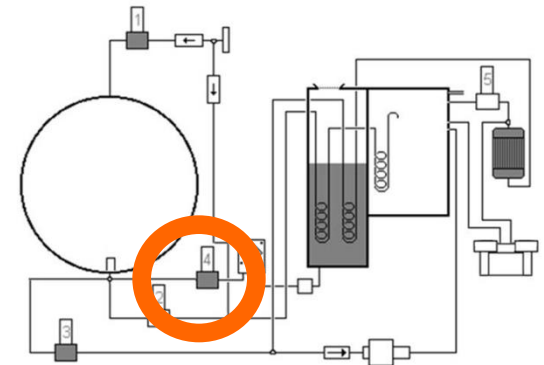
If this operation is not enough to solve the problem, it is possible that is obstructed also the **calibrated hole** in the **water counter**: it is required to dismount the counter and clean it.



CD 5

There was a water flow bigger than 5 cc during a phase of the cycle where the valve 4 must be close.

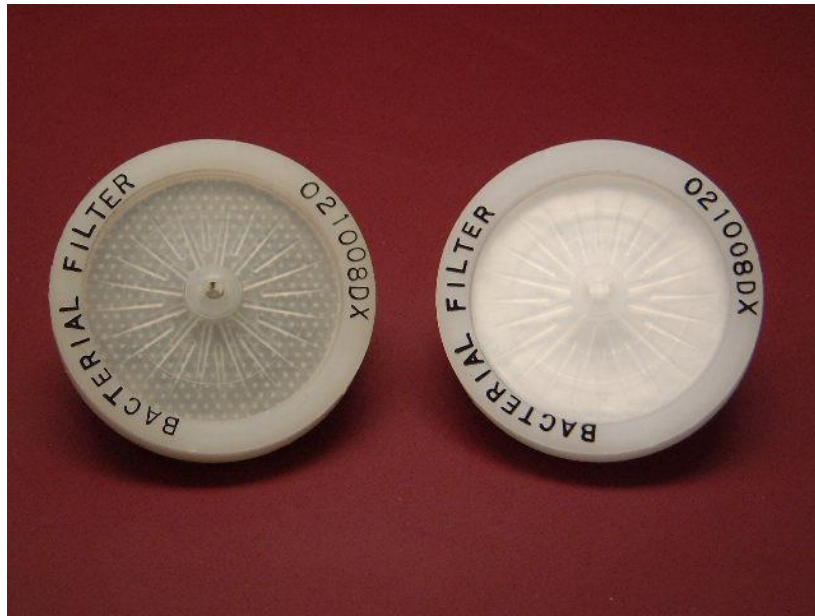
Cause: **valve 4** is dirty, usually the problem will solve by itself running some cycles, if not, it is necessary to open and **clean the valve**.



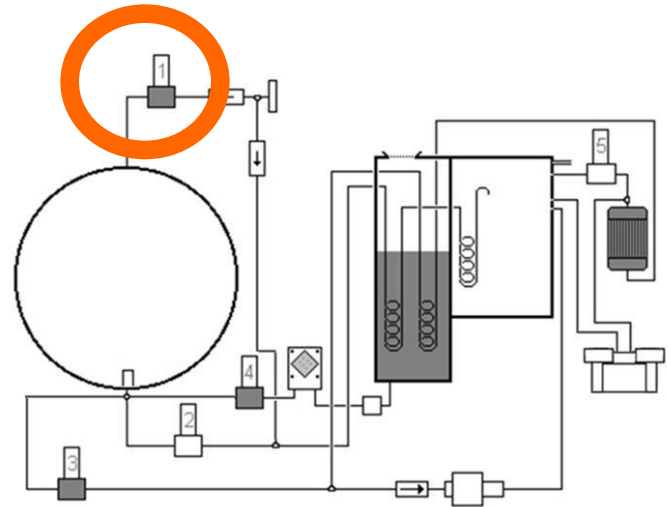
CD 6

At the end of the ventilation phase, the residual pressure in the chamber is lower than -0.3 bar.

Cause: the bacterial filter is dirty, replace it.



If the replacement of the filter doesn't solve the problem, check **valve 1**



CD 7

**The limit vacuum time is reached (8 minutes).
In optimal conditions, the required time to complete the vacuum phase is 2-3 minutes; if the required level of vacuum is not reached in 8 minutes but it is enough to insure the sterilisation, (0,76 bar in the first phase, 0,7 for the following at 0-100m of altitude), the program goes to the next phase inserting in the memory an index.
If this condition is repeated in the three following cycles, the message CD7 is displayed.**

The causes may be:

- insufficient cooling**
- chamber filters dirty**
- gasket door dirty or damaged**
- vacuum pump dirty or consumed**
- altitude not inserted correctly**
- wrong tilt of the autoclave**
- leakage in the circuit**
- radiator closed by dust or with a leakage**
- cooling fans working**
- drain pump dirty**

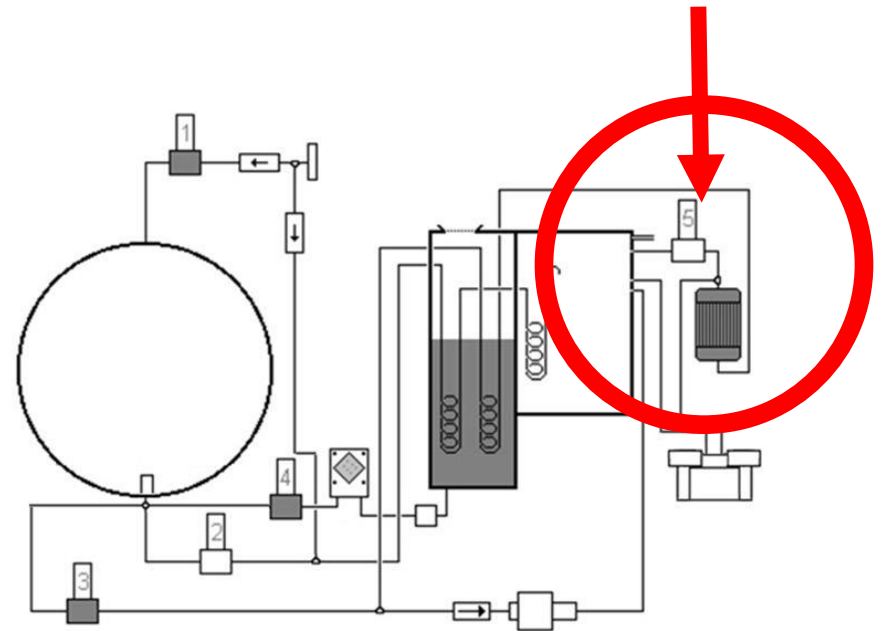
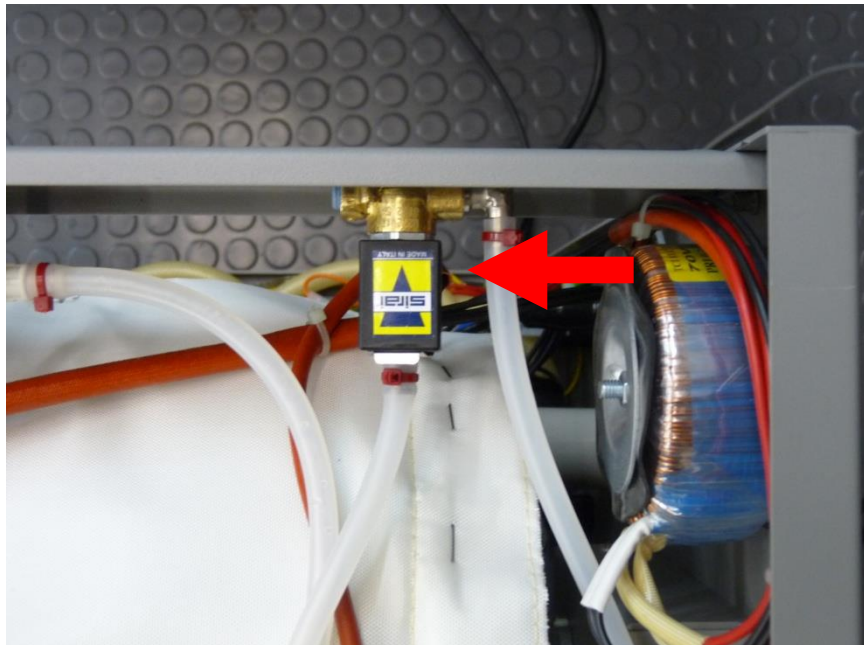
To verify the efficiency of the vacuum circuit , it is enough to connect a vacuum meter on the valve 5.

Disconnect a wire from V3 and V5

Push SET than POWER, on the display appears the message TEST OUT, pushing 3 the pump turns on: after few seconds, the instrument must show a value lower than $-0,9$ bar.

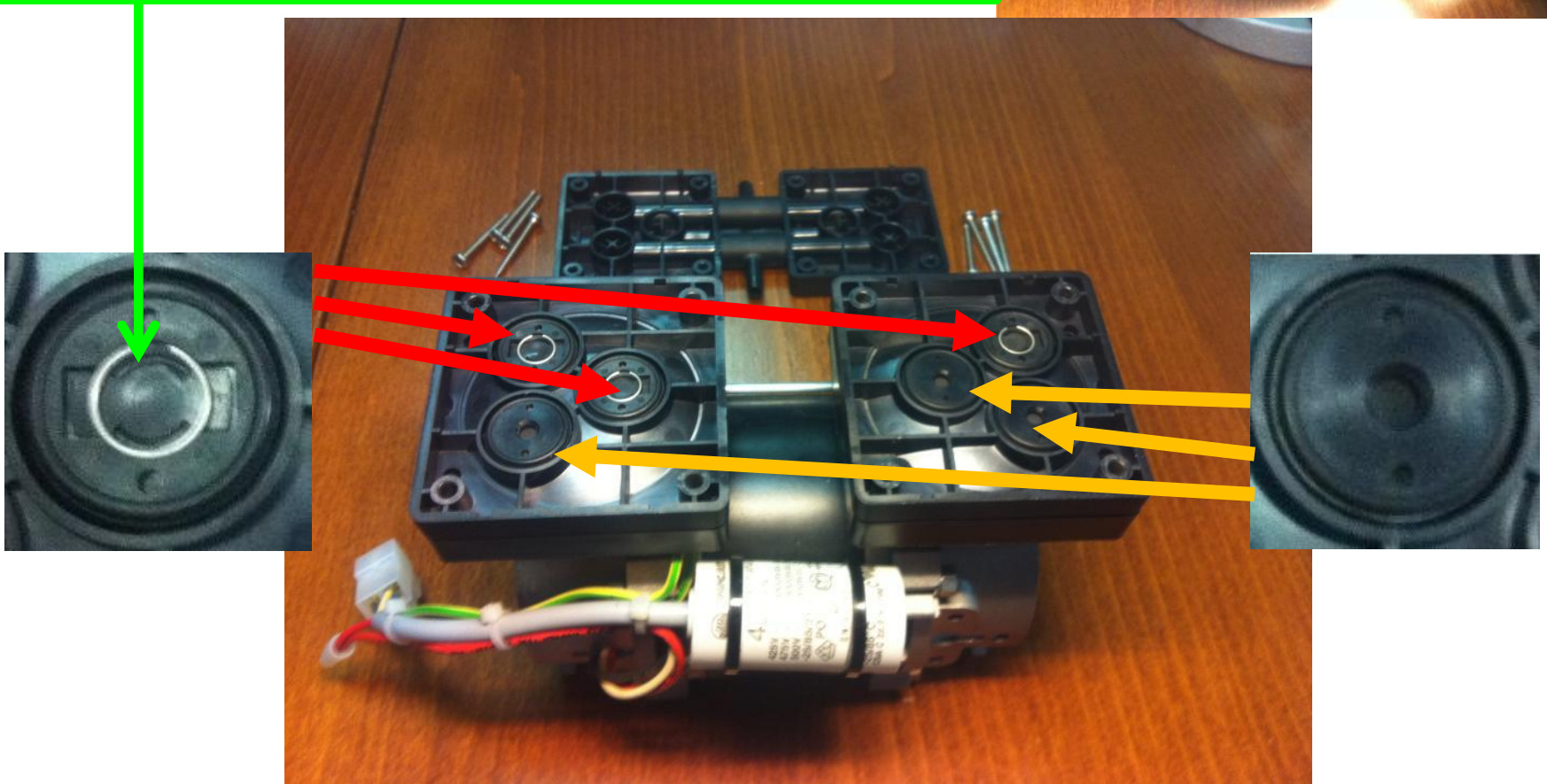
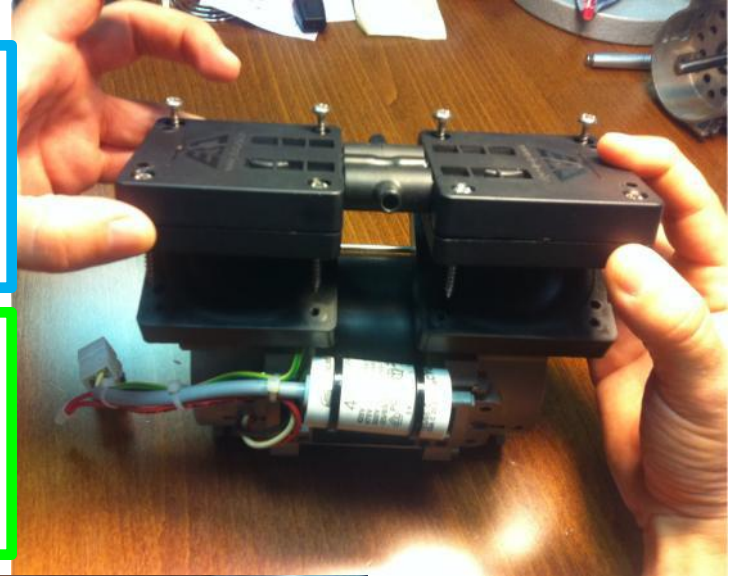
Releasing the button, the gauge must keep the same reading.

If the value is higher it means that the efficiency of the pump is low, if the value increases slowly when the button is released there is a leak in the circuit



Dismounting the vacuum pump, take care to the position of the valves.

Mounting the rubber part inside the valve body, take care that the shiny side is mounted on the metal spring side



AL1 AL2 AL3 AL4

During the auto diagnosis, it tested the resistance of the solenoids of the valves: if it is open or in short circuit, an alarm with the same number of the valve is displayed.

We never found interrupted coils so, if one of this alarms appears, please check the wiring before to replace a valve.

AL 5

The pressure must increase for 0.16 bar every 10 minutes, if it doesn't, the alarm appears. The cause is usually an insufficient quantity of water in the chamber.

We want to remind you that the quantity of water required depends on the temperature that we want to reach and on the quantity and quality of the load: so may happens that some alarms appear only with full load.

The origin of this alarm is, the most of the time, a missing maintenance: the frontal water filter is dirty. Read CD4 instructions.

If the filter is clean, may be that the alarm is caused by a pressure leak and the water is lost before to reach the working pressure.

The most exposed component to this risk is the **valve 2**

Another cause may be a wrong relationship between temperature and pressure, check the altitude setting and verify that the **temperature sensor** is not covered or damaged.

May be required a calibration procedure



AL 6

The vacuum level is not enough.

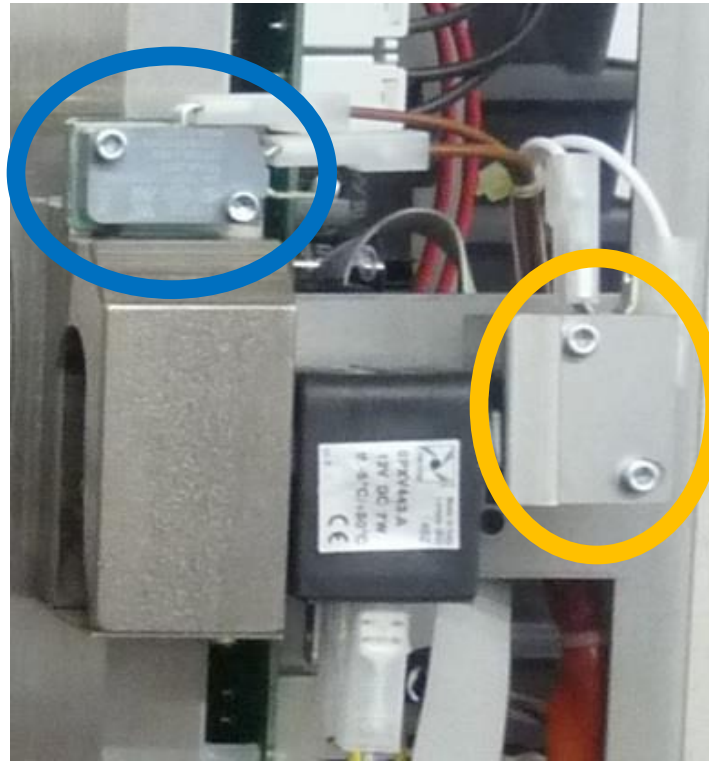
The switch level depend on the altitude setting and on the phase.

Altitude Mt	first vacuum bar	following vacuum bar
0-100	-0,76	-0,7
200-300	-0,74	-0,68
400-500	-0,72	-0,66
600-700	-0,7	-0,64
800-900	-0,68	-0,62
1000-1100	-0,66	-0,6
1200-1300	-0,64	-0,58
1400-1500	-0,62	-0,56
1600-1700	-0,6	-0,54
1800-1900	-0,58	-0,52
2000-2100	-0,56	-0,5
2200-2300	-0,54	-0,48
2400-2500	-0,52	-0,46

the causes and the solutions are described in the CD7 paragraph.

AL 7

The **handle switch** or the **lock switch** is(are) open.
Verify the **door switches** and lock solenoid function.
To look at the switch it is enough to dismount the control panel.



AL 8

After three vacuum phases there is too much air in the chamber.

This control is done when the pressure reaches 0,3 bar: the temperature must be higher than 104°C.

The most frequent cause is a too low altitude setting.

An excessive amount of air may be caused by a vacuum leakage from the chamber or from a valve during a vacuum phase.

Run the vacuum test.

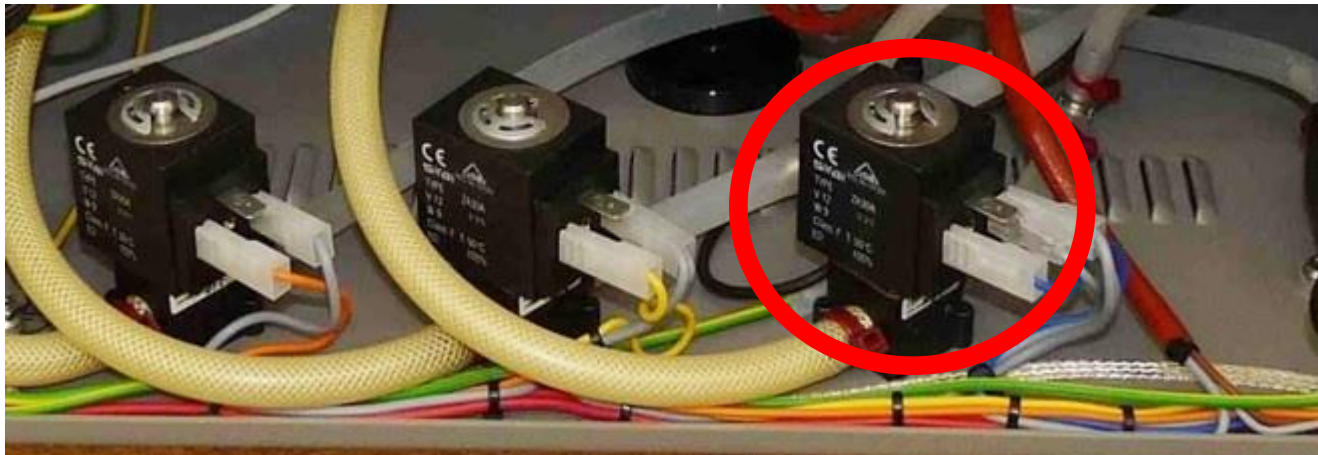
A wrong adjustment of temperature or pressure sensor may cause this alarm.

If the water MIN level floating switch or the water counter does not work , the unit may load air instead of water.

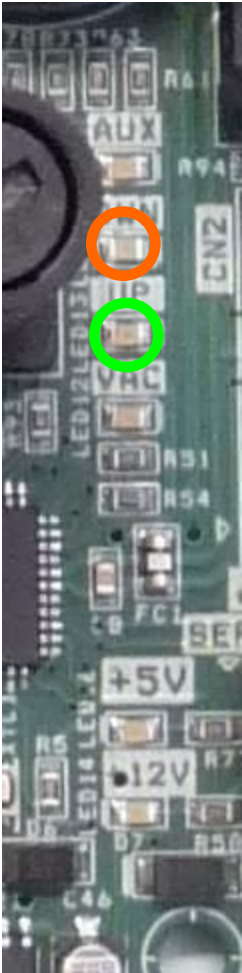
AL 9

The sterilisation countdown is interrupted if the parameters go out of the limits, if it happens and the controller is not able to correct it in less than 30 seconds, this alarm appears.

The causes may be the same of AL5 and cd4.
Verify the water filling and the condition of the **valve 2**



AL 10



During the sterilisation phase, the pressure value is increased more than 0.14 bar over the reference.

The heaters must be turned off by the main board: verify , when the **R.DWN Led is off, the voltage on the lower heater (it must be zero) and when the **R.UP** Led is off the voltage on the lower heaters must be zero. The connectors of the two heater are on the top of the main board**

AL 11

In the sterilisation phase, the pressure value is decreased below the reference.

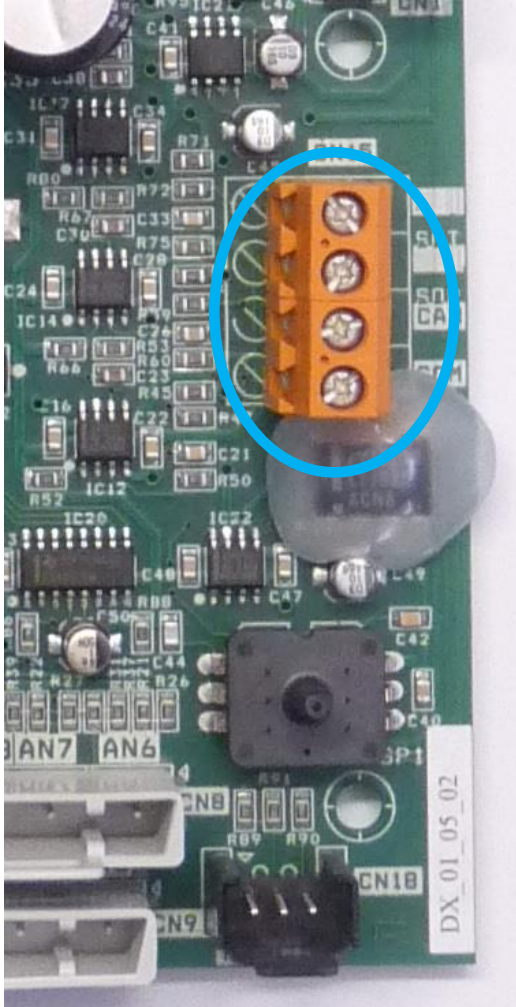
Probably, an hose has broken or the safety valve opens too early.



TAKE CARE!

Don't try to repair, clean or adjust the safety valve; use only original spare parts

AI 12



The difference of the steam temperature from the reference is more than $\pm 3^{\circ}\text{C}$ in the sterilisation phase.

Look at AL10.

Verify the steam temperature sensor connection on the board.

AL 13

Steam sensor

AL 14

Upper sensor

AL 15

Lower sensor

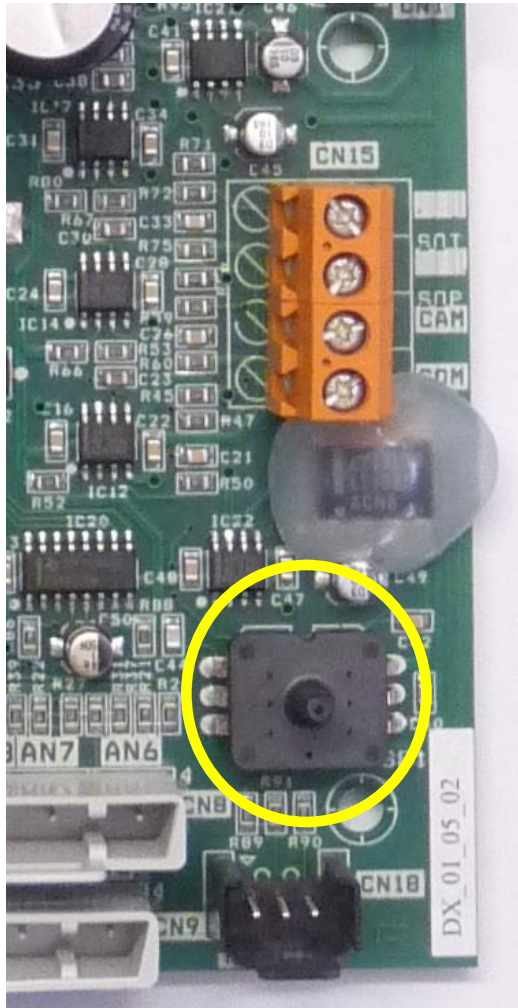
The range of reading of the temperature sensors is 4-168°C, if the reading goes out from this range, the microprocessor turns off all the solenoids and heaters and shows this alarm.

It may appear in winter time during the installation: wait ten minutes with the door open before to turn it on.

AL15 and AL14 may occur in case of missing water in the chamber: look at CD4 paragraph.

Verify the thermocouple resistance (it is a short circuit).

AL 16



The pressure reading was higher than 2,4bar.

May be that the heater are out of control , check the paragraph AL10.

Verify the pressure sensor

AL 31

During the drying phase of a class B cycle, the level of vacuum was not enough to warrant the correct drying.

Verify the drain filter, the tilt of the autoclave and the cooling condition; eventually decrease the load.



iClave plus

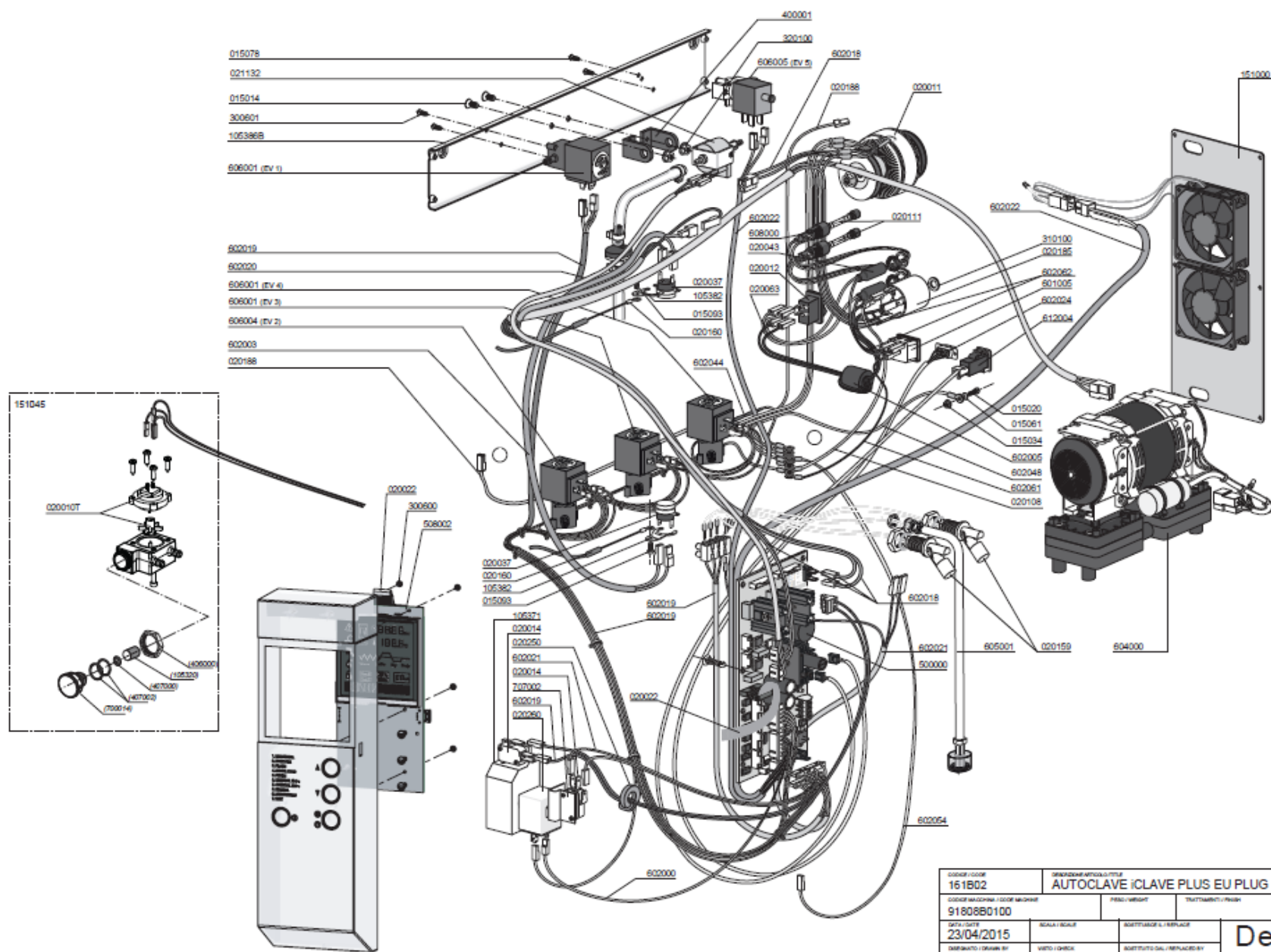
Water Steam Sterilizer – Class B

Spare parts list
and exploded views

COD.	ABMESSUNGEN	DESIGNATION	DENOMINAZIONE	DENOMINATION	DENOMINACIONES
707017	VERKLEIDUNG	PANNEAU	PANNELLO POSTERIORE	REAR PANEL	CONTRAPANEL
161039	TANK	RESERVOIR	COMPLESSIVO SERBATOIO	RECERVOIR	DEPOSITO
105386B	"C" PROFIL	"C" PROFILE GAUCHE	PROFILO A "C"	UPPER PROFIL	"C" PERFIL
707014	GEHAUSE	CARTER GAUCHE	CARTER LATERALE SINISTRO	LEFT HOUSING	CARCASA SX
151043	LAGER	SUPPORT	COMPLESSIVO PORTASCHEDA	MAIN BOARD SUPPORT	SOPORTE
105130	STUTZEN UND GEWINDERING	RACCORD ET BAGUE	RACCORDO CON GHIERA	CONNECTION AND RING NUT	RACOR Y VIROLA
707016	VERKLEIDUNG	PANNEAU ANT.	PANNELLO FRONTALE	FRONT PANEL	CONTRAPANEL
021008	BAKTERIOLOGISCHER FILTER	FILTRE BACTÉRIOLOGIQUE	FILTRO BATTERIOLOGICO	BACTERIAL FILTER	FILTRO BACTERIÓLOGICO
161038	TURABDECKUNG RALSOL	CARTER DE LA PORTE	COMPLESSIVO CARTER PORTA	DOOR COVER	CUBIERTA DE LA PUERTA
707010	GRIF	POIGNEE	MANIGLIA	DOOR HANDLE	VANECILLA
015106	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
707018	LAGER	PANNEAU	SUPPORTO	PANEL	SOPORTE
707019	LAGER	PANNEAU	SUPPORTO	PANEL	SOPORTE
161036	BEDIENFELDABDECKUNG	CACHE DU P. DE COMM.	COMPLESS CARTER COMANDI	CONTROL PANEL	PANEL DE COMANDO
210800	SCHNELLVERSCHLUSSKUPPLUGEN	RACCORD RAPIDE	RACCORDO DI ATTACCO RAPIDO	QUICK COUPLING	ACOPLAMIENTO RÁPIDO
210801	SCHNELLVERSCHLUSSKUPPLUGEN	RACCORD RAPIDE	RACCORDO DI ATTACCO RAPIDO	QUICK COUPLING	ACOPLAMIENTO RÁPIDO
105297B	LAGER	SUPPORT	BASE	LOWER PANEL	SOPORTE
021016	DECKEL	BOUCHON	TAPPO	PLUG	TAPON
021005	FUSSE	PIED D'APPUI	PIEDINO	SUPPORTING FOOT	PIE DE APOYO
105380	ABSTANDSTUEK	ENTRETOISE	RONDELLA DI SPESSORE	WASHER	SEPARADOR
105388B	HALTER	ENTRIER	PROFILO "C" INFERIORE SERB.	LOWER RECERVOIR SUPPORT	"C" PERFIL
707013	GEHAUSE	CARTER DROIT	CARTER LATERALE DESTRO	RAIGHT HOUSING	CARCASA DX
105501	KÜHLER	RADIATEUR	RADIATORE	COOLER	RADIATOR
707001A	GITTER	GRILLE	GRIGLIA DI PROTEZIONE	PROTECTION GRID	RAJLLA
151000	LAGER	PANNEAU VENTILATEUR	SUPPORTO VENTILATORI	FAN PANEL	SOPORTE VENTILADOR
105387B	HALTER	ENTRIER	PROFILO A "C" SERBATOIO	UPPER RECERVOIR SUPPORT	SOPORTE
707015	GEHAUSE	CARTER SUPERIEUR	CARTER SUPERIORE	UPPER HOUSING	CARCASA
105385K	DECKEL	BOUCHON	TAPPO SERBATOIO	RECERVOIR LID	TAPON
151045	VOLUMETRISCH ZÄHLER	COMPTEUR VOLUMETRIQUE	CONT. VOLUMETRICO	VOLUMETRIC COUNTER	COMPUTADOR VOLUM

COD.	ABMESSUNGEN	DESIGNATION	DENOMINAZIONE	DENOMINATION	DENOMINACIONES
015050	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
015152	FEDER	RESSORT	MOLLA	SPRING	RESORTE
015051	KUGEL	BILLE	SFERA	BALL	BOLA
105147	SCHRAUBE	VIS DE REG.	VITE REGOLAZIONE PORTA	DOOR REGULATION SCREW	TORNILLO REG. PUERTA
015120	LAGER	SUPPORT DE L'AXE POIGNEE	SUPPORTO PERNO MANIGLIA	HANDLE PIN SUPPORT	SOPORTE PAS. DE VAN.
105335	SCHARNIER	CHARNIÈRE	CERNIERA	HINGE	BISAGRA
015056	SCHEIBE	RONDELLE	RONDELLA	WASHER	ARANDELA
700021	LAGER	SUPPORT	STAFFA	BRACKET	SOPORTE
105336	LAGER	SUPPORT DE LA PORTE	TRAVE SUPPORTO PORTA	DOOR SUPPORT	SOPORTE PUERTA
015088	MUTTER	ECROU	DADO	NUT	TUERCA
015123	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
015151	FEDER	RESSORT	MOLLA	SPRING	RESORTE
015122	SCHRAUBE	VIS	GRANO	SCREW	TORNILLO
105119-R	BUCHSE	DOUILLE	GHIERA	BUSHING	CASQUILLO
105090	SCHEIBE	RONDELLE	RONDELLA	WASHER	ARANDELA
015049	KÜGELCHEN	BILLES	SFERETTE	BALLS	BOLAS
700006	SCHEIBE	RONDELLE	RONDELLA	WASHER	ARANDELA
707005	GRIFF BOLZEN	AXE POIGNEE	PERNO MANIGLIA	HANDLE PIN	PASADOR DE VANECILLA
105120	BUECHSE	DOUILLE	BOCCOLA	BUSH	CASQUILLO
015054	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
021206	DICHTUNG	JOINT DE LA PORTE	GUARNIZIONE PORTA	DOOR GASKET	JUNTA DE LA PUERTA
101092	TÜR	PORTE	COMPLESSIVO PORTA	DOOR	PUERTA
020160	OBERE TEMPERATURE	SONDE TEMPERATURE	TERMOCOPPIA	TEMP. PROBE	SONDA TEMP.
200604	STUTZEN	RACCORD	RACCORDO A "T"	"T" CONNECTION	RACOR
015055	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
707006A	KAMERA	CHAMBRE	CAMERA	CHAMBER	CÁMARA
021019D	ISOLIERUNG	ISOLANT	ISOLANTE TERMICO	THERMAL INSULATOR	AISLADOR
105428	BOLZEN	AXE	PIOLO MICRO	MICROSWITCH PIN	PASADOR
015024	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
020014	MICROSHALTER	MICRORUPTEUR	MICROINTERRUTTORE	MICROSWITCH	MICRORUPTOR
021019E	ISOLIERUNG	ISOLANT	ISOLANTE TERMICO	THERMAL INSULATOR	AISLADOR
105371	TURFESTELLER	ARRETE-PORTE	FERMO PORTA	DOOR STOPPER	BLOQUE DE LA PUERTA
020037	THERMOSTAT	THERMOSTAT	TERMOSTATO	THERMOSTAT	TERMOSTATO
105382	LAGER	SUPPORT	STAFFETTA TERMOSTATO	BRACKET	SOPORTE
015093	SCHRAUBE	VIS	VITE	VITE	TORNILLO
015036	MUTTER	ECROU	DADO	NUT	TUERCA
602003	KABEL	CABLE	CABLAGGIO	CABLAGGIO	CABLE
015072	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
020260	SOLENOID	SOLÉNOIDE	SOLENOIDE DI BLOCCO	LOCKING SOLENOID	SOLENOIDE
707002	LAGER	SUPPORT	STAFFETTA DI SUPPORTO	SUPPORT BRACKET	SOPORTE

COD.	ABMESSUNGEN	DESIGNATION	DENOMINAZIONE	DENOMINATION	DENOMINACIONES
105132	VENTIL	SOUPAPE	VALVOLA DI SICUREZZA	SAFETY VALVE	VALVULA
021055	STUTZEN	RACCORD	RACCORDO	CONNECTION	RACOR
015052	GEWINDERING	BAGUE	GHIERA	RING NUT	VIROLA
015041	SCHEIBE	RONDELLE	RONDELLA	WASHER	ARANDELA
015056	SCHEIBE	RONDELLE	RONDELLA	WASHER	ARANDELA
015019	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
101062-03	SONDE TEMPERATUR	SONDE DE TEMPERATURE	SONDA TEMPERATURE	TEMPERATURE PROBE	SONDA TEMPERATURA
707017	VERKLEIDUNG	PANNEAU	PANNELLO POSTERIORE	REAR PANEL	CONTRAPANEL
021016	DECKEL	BOUCHON	TAPPO	PLUG	TAPON
021083	GEWINDERING	BAGUE	GHIERA	RING NUT	VIROLA
105288	STUTZEN	RACCORD	RACCORDO	CONNECTION	RACOR
700014	DECKEL	BOUCHON	TAPPO	PLUG	TAPON
021123	GEWINDERING	JOINT	GUARNIZIONE O-RING	GASKET	JUNTA
105145	STUTZEN + GEWINDERING	RACCORD + BAGUE	RACCORDO + GHIERA	CONNECTION + RING NUT	RACOR + VIROLA
015073	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
105095	TERMIC ISOLIERUNG	ISOLANT TERMIQUE	COPERTURA ISOLANTE	INSULANT COVER	AISLADOR TERMICO
105096	TERMIC ISOLIERUNG	ISOLANT TERMIQUE	COPERTURA IS. POSTERIORE	REAR INSULANT COVER	AISLADOR TERMICO
015150	FEDER	RESSORT	MOLLA	SPRING	RESORTE
105149	HAKEN	CROCHET	AGGANCIO	CHAMBER INSULATION HOOK	GANCHO
603000	WIDERSTAND	RESISTANCE	RESISTENZA	HEATER	RESISTENCIA
707018	LAGER	PANNEAU	SUPPORTO	PANEL	SOPORTE
707019	LAGER	PANNEAU	SUPPORTO	PANEL	SOPORTE
015112	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
320100	MUTTER	ECROU	DADO	NUT	TUERCA
105076	TRAY	PLATEAUX	TRAY FORATO	TRAY	BANDEJA
105077	TRAY	PLATEAUX	TRAY FORATO	TRAY	BANDEJA
105078	DREHBARER	SUPPORT PLATEAUX	CESTO PORTATRAYS	TRAY RACK	PORTA BANDEJAS

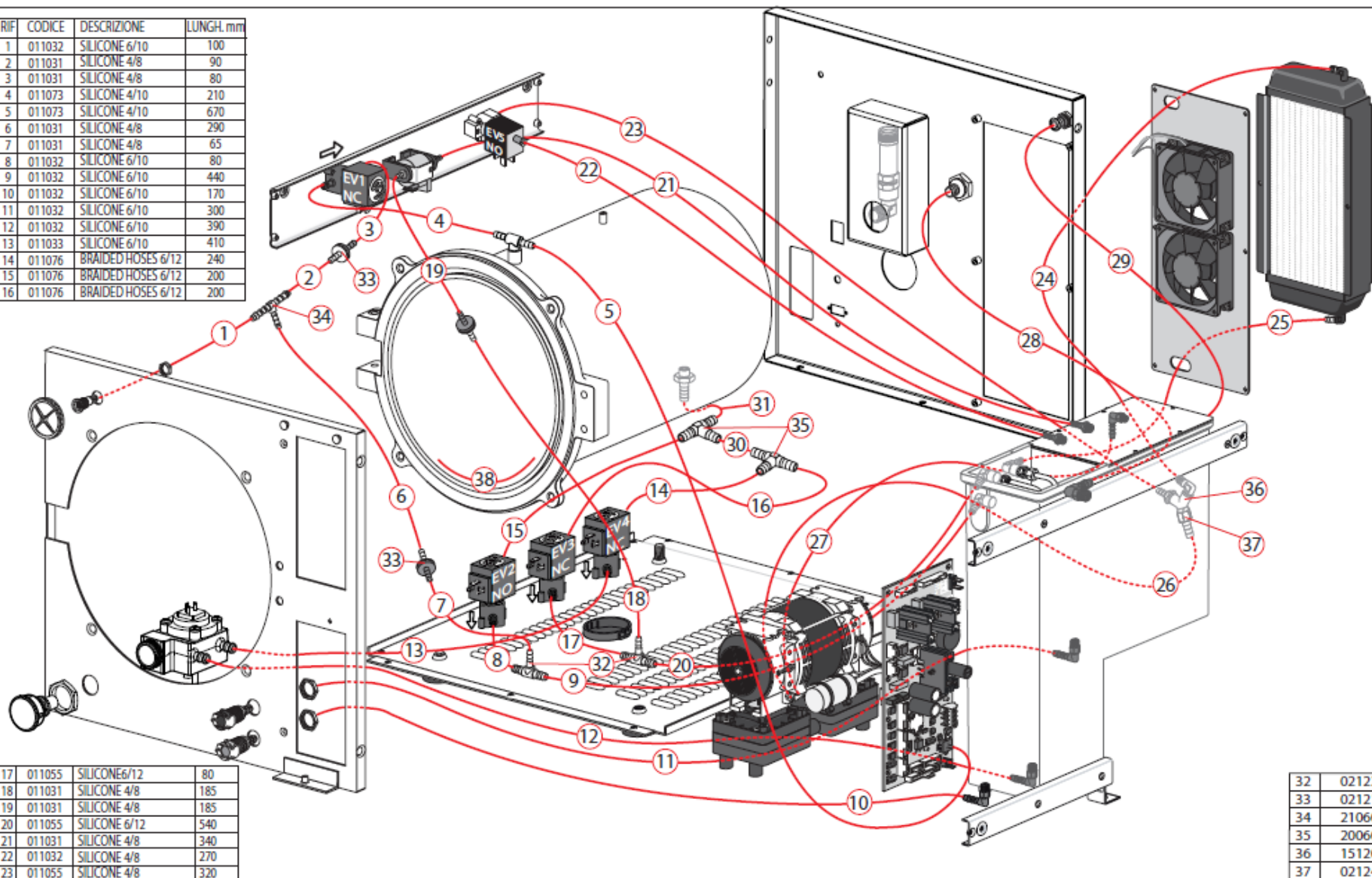


MODEL CODE 151B02	DESCRIPTION ARTICOLO/ITEM AUTOCLAVE iCLAVE PLUS EU PLUG	SHEET 3
MODEL MANUFACTURE CODE MANIF 91808B0100	PESS-VARIANT TRATTAMENTO-PLUG	REV.0 DATA: 04/2015
DATA DATE 23/04/2015	SCALE / SCALE	SUBSTITUTE N. REPLACEMENT
PREPARED / PREPARED BY FIORIO L.	VERO / CHECK	SUBSTITUTE N. REPLACEMENT BY
proprietà riservata / all right reserved		
DentalX SpA		via Marzotto, 11 Dueville (VI)

COD.	ABMESSUNGEN	DESIGNATION	DENOMINAZIONE	DENOMINATION	DENOMINACIONES
015078	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
021132	PUMPE	POMPE	POMPA	PUMP	BOMBA
015014	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
300601	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
105386B	"C" PROFIL	"C" PROFILE	PROFILO A "C"	"C" CHANNEL	"C" PERFIL
606001	STUERVENTIL	SOUPAPE ELECTR.	ELETTROVALVOLA	ELECTRO VALVE	ELECTROVALVULA
400001	LAGER	SUPPORT	SUPPORTO POMPA	SUPPORT	SOPORTE BOMBA
320100	MUTTER	ECROU	DADO	NUT	TUERCA
602019	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602020	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
606004	STUERVENTIL	SOUPAPE ELECTR.	ELETTROVALVOLA	ELECTRO VALVE	ELECTROVALVULA
602003	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
020188	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
508002	STEUERKARTE DISPLAY	PLATINE DISPLAY	DISPLAY	DISPLAY CONTROL BOARD	FICHA DISPLAY
020022	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
300600	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
020037	THERMOSTAT	THERMOSTAT	TERMOSTATO	THERMOSTAT	TERMOSTATO
020160	OBERE TEMPERATURE	SONDE TEMP.	SONDA TEMPERATURA	TEMPERATURE PROBE	SONDA
105382	LAGER	SUPPORT	STAFFETTA	SUPPORT	SOPORTE
015093	SCHAUBE	VIS	VITE	SCREW	TORNILLO
105371	TURFESTELLER	ARRETE-PORTE	BLOCCO PORTA	DOOR STOPPER	FERMO PUERTA
020014	MICROSHALTER	MICRO-INTERRUPTEUR	MICROINTERRUTTORE	MICROSWITCH	MICRO INTERRUPTOR
020250	FERRITE	FERRITE	FERRITE	FERRITE	FERRITE
602021	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
707002	LAGER	SUPPORT	STAFFETTA	SUPPORT	SOPORTE
020260	SOLENOID	SOLÉNOIDE	SOLENOIDE DI BLOCCO	LOCKING SOLENOID	SOLENOIDE
612004	SERIELLE SCHNITTSTELLE	CONNECTOR SERIAL	CONN. SERIALE EST.	SERIAL CONNECTOR	CONECTOR SERIALE
602022	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602019	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602018	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602024	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602000	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602044	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602021	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
500000	MUTTERKARTE	FICHE PRINCIPALE	SCHEDA MADRE	MAIN BOARD	FICHA PRINCIPAL
602054	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
605001	STANDGEBER MIN.	JAUGE DE NIVEAU MIN.	INDICATORE LIVELLO MIN.	MIN WATER LEVEL SENSOR	INDICATOR DE NIVEL MIN.
020159	STANDGEBER MAX.	JAUGE DE NIVEAU MIN.	INDICATORE LIVELLO MAX.	MAX WATER LEVEL SENSOR	INDICATOR DE NIVEL MAX.
604000	VACUUM PUMPE	POMPE	POMPA VUOTO	VACUUM PUMP	BOMBA
151000	LUFTER	VENTILATEURS	VENTILATORI	FUN	VENTILADOR

COD.	ABMESSUNGEN	DESIGNATION	DENOMINAZIONE	DENOMINATION	DENOMINACIONES
606005	STUERVENTIL	SOUPAPE ELECTR.	ELETTROVALVOLA	ELECTRO VALVE	ELECTROVALVULA
602018	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
020188	KABEL	CABLE	CABLAGGIO	ABLE	CABLE
020011	TRANSFORMATOR	TRANSFORMATEUR	TRASFORMATORE	TRANSFORMER	TRANSFORMADOR
020111	SICHERUNG	FUSIBLE	FUSIBILE	FUSE	FUSIBLE
608000	SICHERUNGSHALTER	PORTA-FUSIBLES	PORTAFUSIBILE	FUSE HOLDER	PORTAFUSIBLE
020043	HUELLE	GAINE	PROTEZIONE PORTAFUSIBILE	FUSE HOLDER PROTECTOR	FUNDA
020012	SCHALTER	INTERRUPTEUR	INTERRUTTORE BIPOLARE	SWITCH	INTERRUPTOR
612004	SERIELLE SCHNITTSTELLE	CONNECTOR SERIAL	CONN. SERIALE EST.	SERIAL CONNECTOR	CONECTOR SERIALE
602024	KABEL	CABLE	CAVO STAMPANTE EST.	CABLE	CABLE
601005	STROMANSCHLUSSE	PRISES MALE	SPINA INCASSO	POWER INLETS	ENTRADAS DE LA ENERGIA
020185	NETZFILTER	FILTRE DE RÉSEAU	FILTRO DI RETE	MAIN FILTER	FILTRO DE RED
310100	SCHEIBE	RONDELLE	RONDELLA	WASHER	ARANDELA
602061	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602005	KABEL + FERRITE	CABLE + FERRITE	CABLAGGIO + FERRITE	CABLE + FERRITE	CABLE + FERRITE
020108	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602061	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
602048	KABEL	CABLE	CABLAGGIO	CABLE	CABLE
015034	MUTTER	ECROU	DADO	NUT	TUERCA
015061	SCHEIBE	RONDELLE	RONDELLA	WASHER	ARANDELA
015020	SCHRAUBE	VIS	VITE	SCREW	TORNILLO
151045	VOLUMETRISCH ZÄHLER	COMPTEUR VOLUMÉTRIQUE	CONT. VOLUMETRICO	VOLUMETRIC COUNTER	COMPUTADOR VOLUM
406000	GEWINDERING	BAGUE	GHIERA	BUSHING	VIROLA
105320	WASSERFILTER	FILTRE DE L'EAU	FILTRO ACQUA	WATER FILTER	FILTRO AGUA
407000	FILTERHALTER	JOINT	GUARNIZIONE O-RING	GASKET	JUNTA
407002	DICHTUNG	JOINT	GUARNIZIONE O-RING	GASKET	JUNTA
700014	DECKEL	BOUCHON	TAPPO	PLUG	TAPON
020010T	ROTATIONSENSOR+ROTOR	CAPTEUR DE ROTATION+ROTOR	SENSORE GIRANTE ACQUA	ROTATION SENSOR+ROTOR	SENSOR DE ROTACION+ROTOR

17	011055	SILICONE 6/12	80	
18	011031	SILICONE 4/8	185	
19	011031	SILICONE 4/8	185	
20	011055	SILICONE 6/12	540	
21	011031	SILICONE 4/8	340	
22	011032	SILICONE 4/8	270	
23	011055	SILICONE 4/8	320	
24	011055	SILICONE 6/12	150	
25	011055	SILICONE 6/12	600	
26	011055	SILICONE 6/12	320	
27	011032	SILICONE 6/10	390	
28	011039	SILICONE 10/14	160	
29	011039	SILICONE 10/14	40	38 011032 SILICONE 6/10 130
30	011076	BRAIDED HOSES 6/12	50	31 011076 BRAIDED HOSES 6/12 90



32	021228
33	021217
34	210600
35	200603
36	151202
37	021248