

GADS

Graphs, Alarms, Diagrams & Solutions

This document helps you to recognize the alarms shown on the display.

Each alarm generates a specific identification code, determined by the phase of the sterilization cycle in which it occurs and the type of anomaly. Once the code is recognized, it is possible to find out the components involved, their positioning and determine the solution.

Graph & Alarms B6/B18/B23

GADS (Graphs, Alarms, Diagrams & Solutions)

GRAPHS

CYCLE B GRAPH

CYCLE S GRAPH

VACUUM TEST GRAPH

DIAGRAMS

WATER DIAGRAM

KEY

ELECTRICAL DIAGRAM, SIGNALS

ELECTRICAL DIAGRAM, POWER

ALARMS

AL000x (01, 02, 03, 04, 05)

AL001x (11, 12, 15)

AL002x (21, 22, 23, 24)

AL003x (31, 32, 33, 34)

AL01xx (100, 101, 102, 110, 111)

AL02xx (200, 201, 202, 210, 211)

AL03xx (300, 301, 302, 310, 311)

AL04xx (400, 401, 402, 404, 405)

AL05xx (500, 501, 502, 504, 505)

AL06xx (600, 601)

AL07xx (700)

RESET

The alarms that appear on the display stop any subsequent operation: it is necessary to reset the device by pressing the START and SELECT buttons at the same time until the display goes off for a moment.

CALIBRATION

TEMPERATURE PROBES CALIBRATION

Autoclave Class B: Cycle type B

AL0100	AL0200	AL0300	AL0400	AL0500
AL0101	AL0201	AL0301	AL0401	AL0501
AL0102	AL0202	AL0302	AL0402	AL0502
T1	T2	P	TVP	TRS

AL0405 / AL0504 / AL0505

AL0001 / AL0002 / AL0003 / AL0004 / AL0005

AL0110

134 °C

121 °C

AL0111
AL0211
AL0310
AL0311
AL0700

AL0404

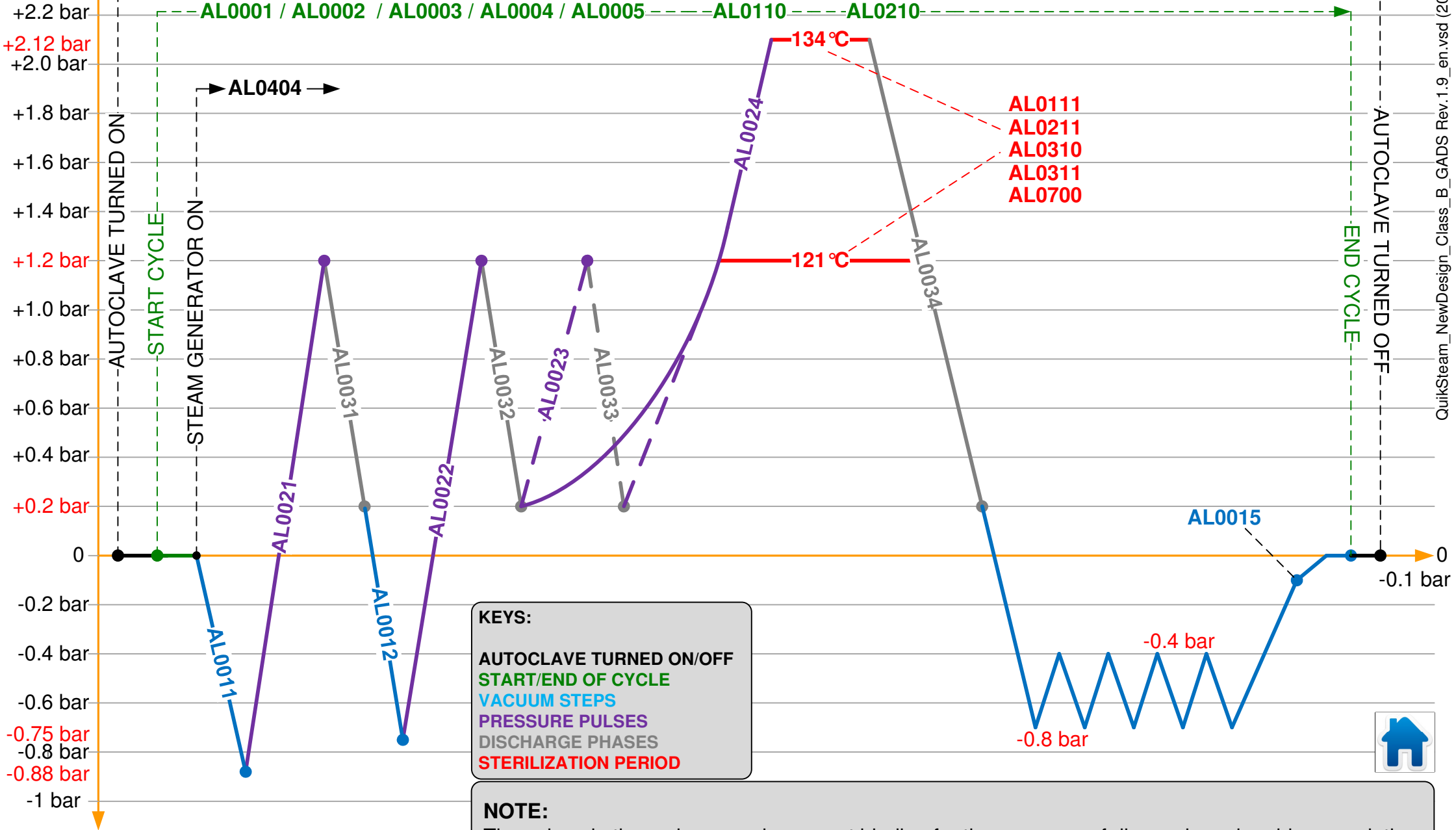
AUTOCLAVE TURNED ON

START CYCLE

STEAM GENERATOR ON

AUTOCLAVE TURNED OFF

END CYCLE



KEYS:

- AUTOCLAVE TURNED ON/OFF
- START/END OF CYCLE
- VACUUM STEPS
- PRESSURE PULSES
- DISCHARGE PHASES
- STERILIZATION PERIOD

NOTE:
The values in the various graphs are not binding for the purposes of diagnosis and problem resolution.



AL0100	AL0200	AL0300	AL0400	AL0500
AL0101	AL0201	AL0301	AL0401	AL0501
AL0102	AL0202	AL0302	AL0402	AL0502
T1	T2	P	TVP	TRS

AL0405 / AL0504 / AL0505

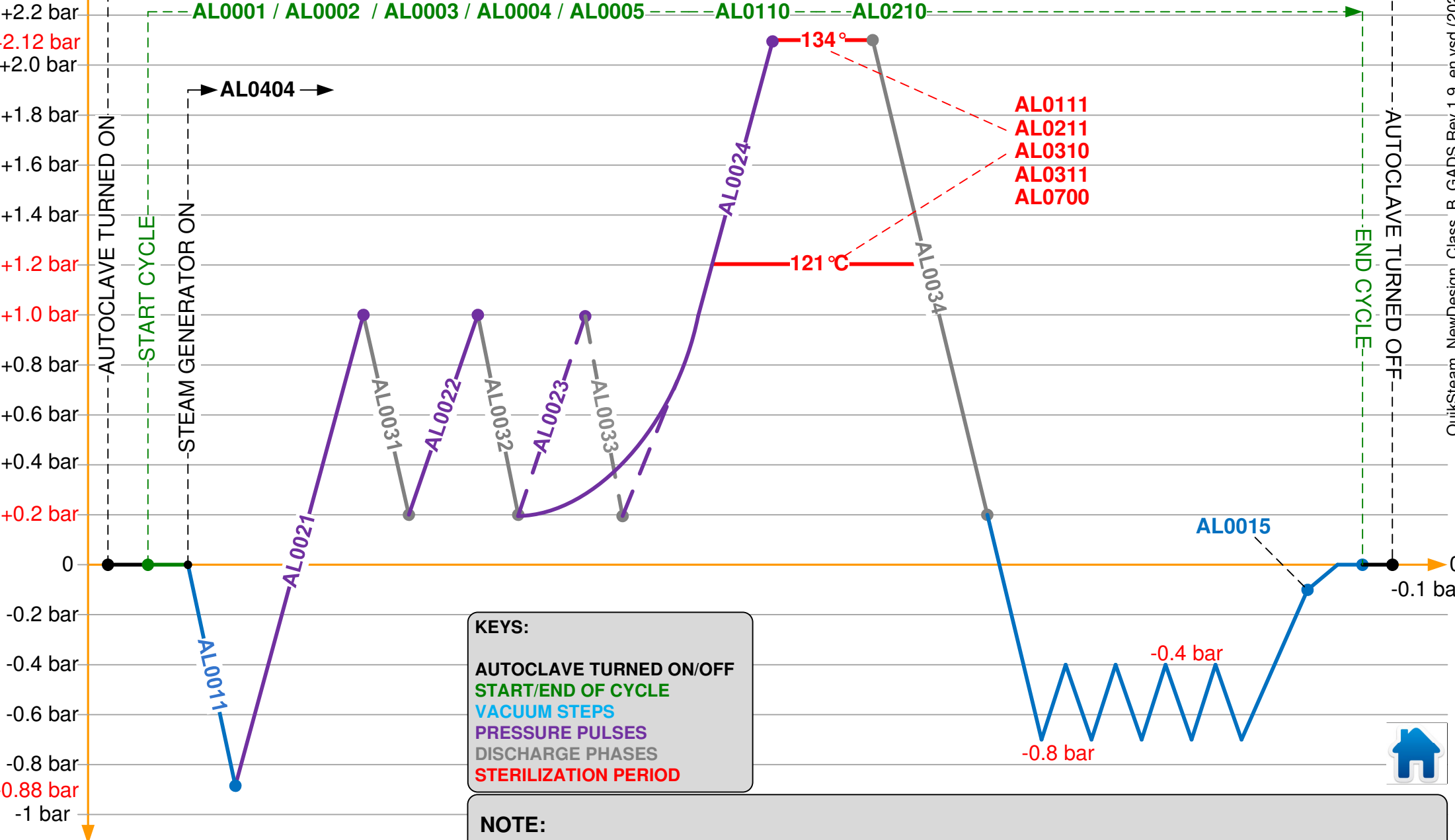
AL0001 / AL0002 / AL0003 / AL0004 / AL0005

AL0110

AL0210

AL0404

AL0111
AL0211
AL0310
AL0311
AL0700



KEYS:

- AUTOCLAVE TURNED ON/OFF
- START/END OF CYCLE
- VACUUM STEPS
- PRESSURE PULSES
- DISCHARGE PHASES
- STERILIZATION PERIOD

NOTE:
The values in the various graphs are not binding for the purposes of diagnosis and problem resolution.



Autoclave Class B: Vacuum Test

AL0100	AL0200	AL0300	AL0400	AL0500
AL0101	AL0201	AL0301	AL0401	AL0501
AL0102	AL0202	AL0302	AL0402	AL0502
T1	T2	P	TVP	TRS

AL0405 / AL0504 / AL0505

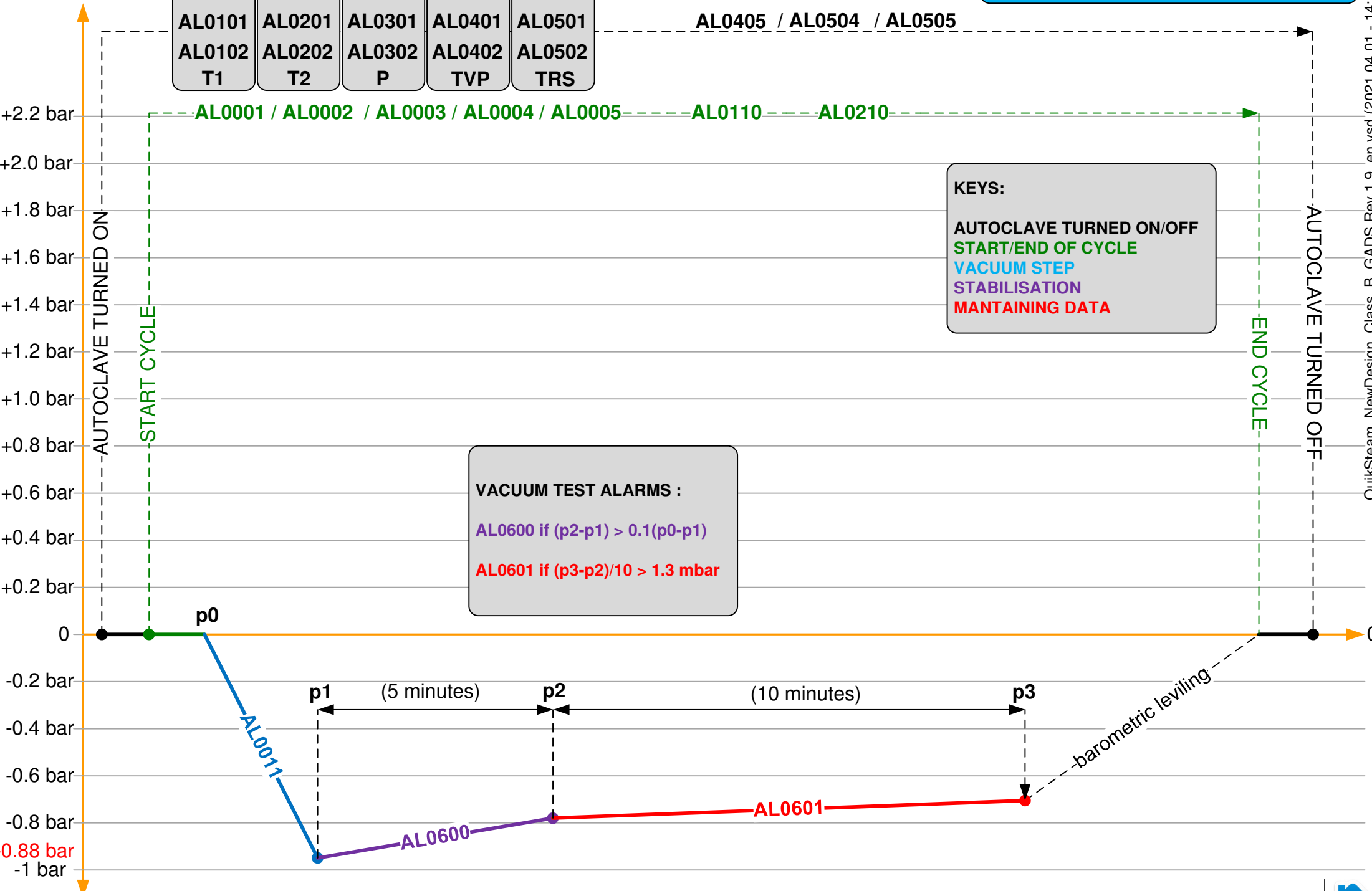
AL0001 / AL0002 / AL0003 / AL0004 / AL0005 AL0110 AL0210

KEYS:






- AUTOCLAVE TURNED ON/OFF
- START/END OF CYCLE
- VACUUM STEP
- STABILISATION
- MANTAINING DATA

VACUUM TEST ALARMS :

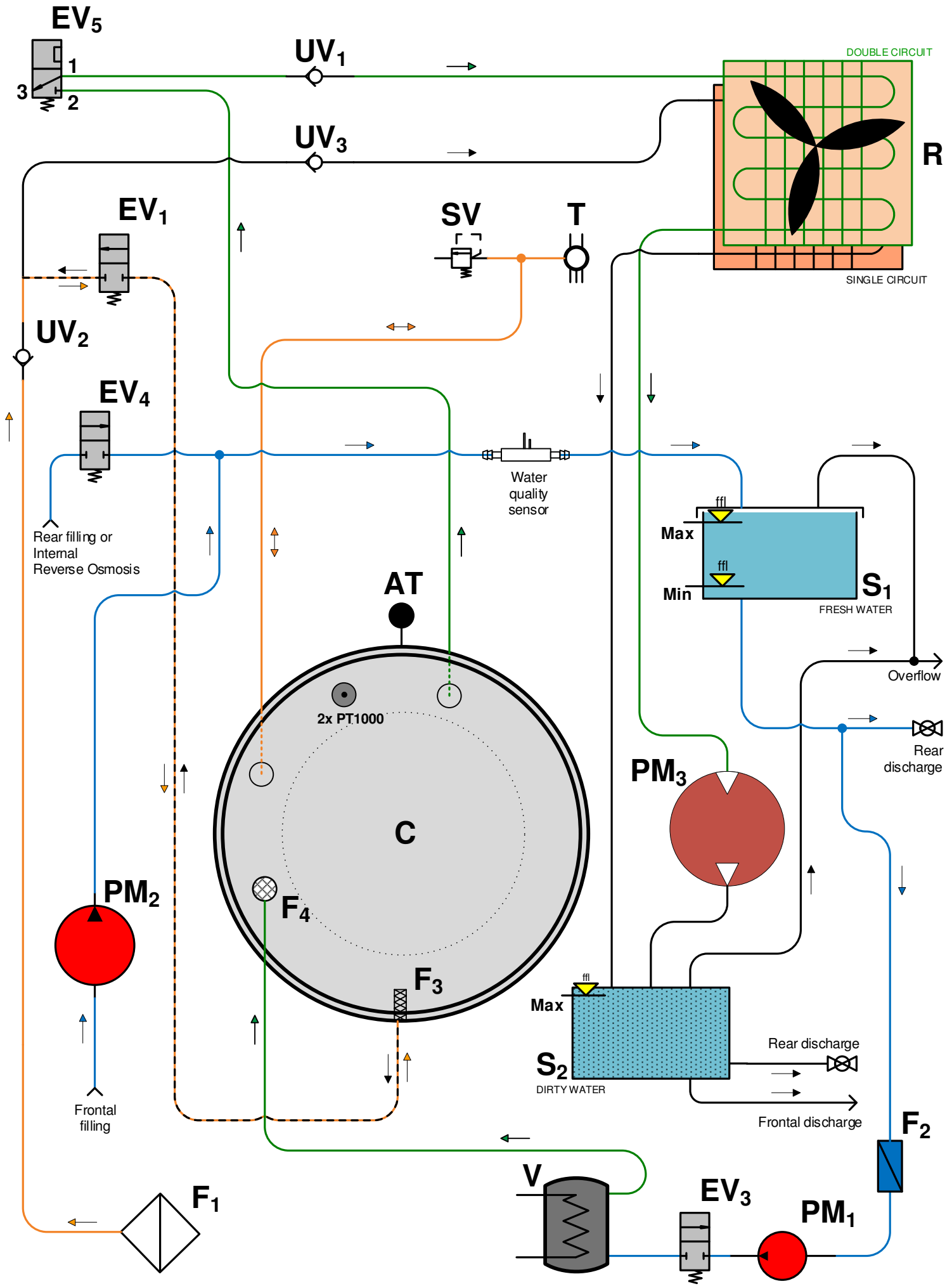
- AL0600 if $(p_2 - p_1) > 0.1(p_0 - p_1)$
- AL0601 if $(p_3 - p_2)/10 > 1.3 \text{ mbar}$



KEY

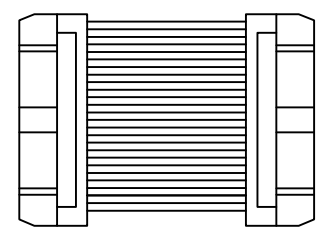
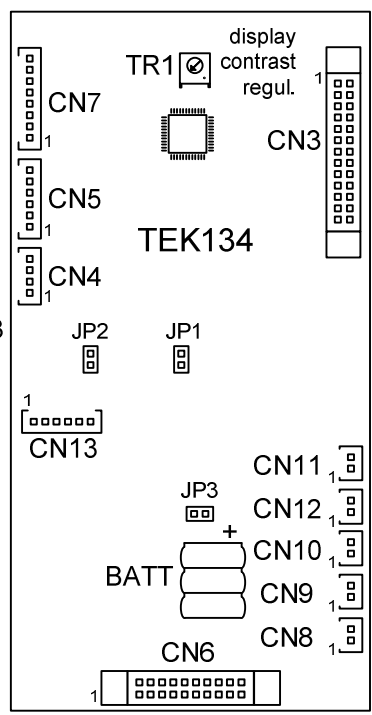
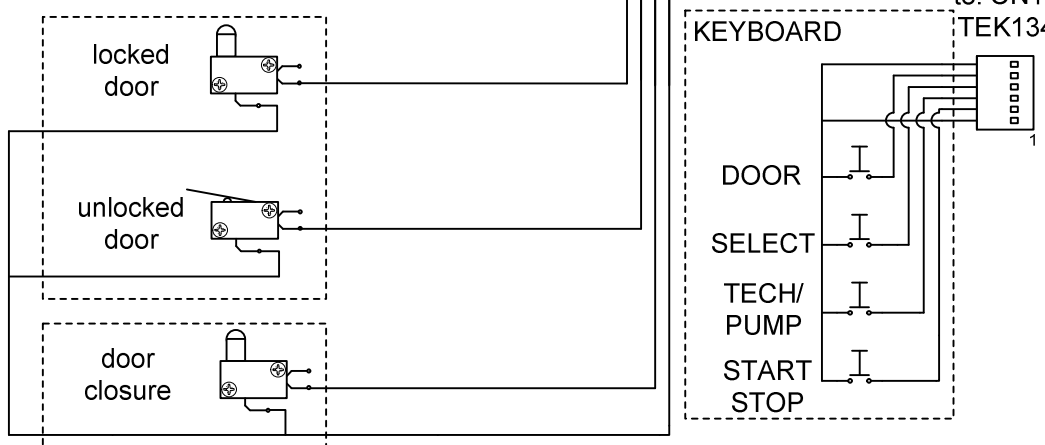
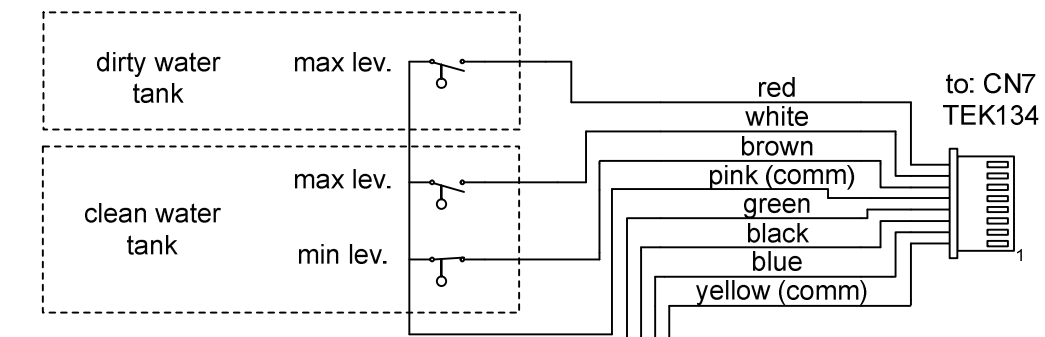
PM1	STEAM INJECTION PUMP
PM2	PUMP FOR FILLING TANKS
PM3	VACUUM PUMP
R	CONDENSER WITH TWO SEPARATE CIRCUITS
SV	SAFETY VALVE
T	0-4 BAR / 4-20 mA PRESSURE TRANSDUCER
C	STERILIZATION CHAMBER
V	VAPORIZER (STEAM GENERATOR)
F1	BACTERIOLOGICAL FILTER
F2	WATER FILTER
F3	STAINLESS STEEL EXHAUST FILTER
F4	STAINLESS STEEL STEAM INLET FILTER
UV	PTFE ONE-WAY VALVE
AT	TEST CONNECTOR FOR AUTOCLAVE VALIDATION
S1	INTERNAL CLEAN WATER TANK
S2	INTERNAL USED WATER TANK
	MIN & MAX LEVEL SENSOR FOR CLEAN WATER TANK
	MAX LEVEL SENSOR FOR USED WATER TANK
PT1000	CHAMBER TEMPERATURE SENSOR
EV1	NC 1/8 Ø 2.8mm SOLENOID VALVE
EV3	NC 1/8 Ø 2.8mm SOLENOID VALVE
EV4	NC 1/8 Ø 2.8mm SOLENOID VALVE
EV5	3-WAY 1/4 Ø 3 mm - Ø 1 mm SOLENOID VALVE
	FLUID DIRECTION
	FILL and/or DRAIN TAP
	FILL and/or DRAIN HOSE CONNECTOR



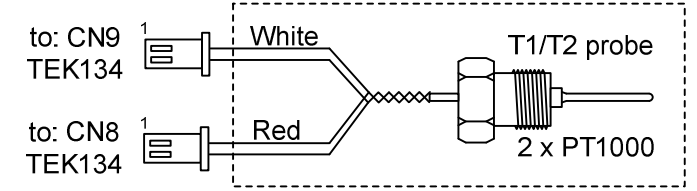
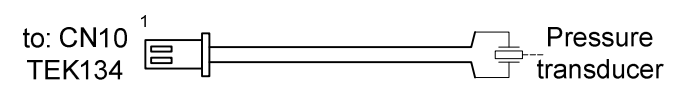
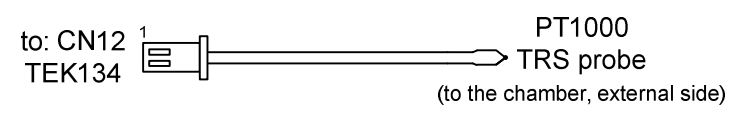
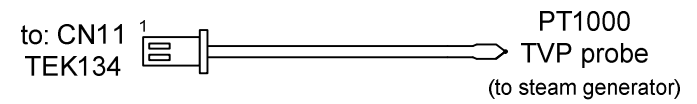


CLEAN WATER **DIRTY WATER** **STEAM** **MIX WATER-STEAM-AIR**

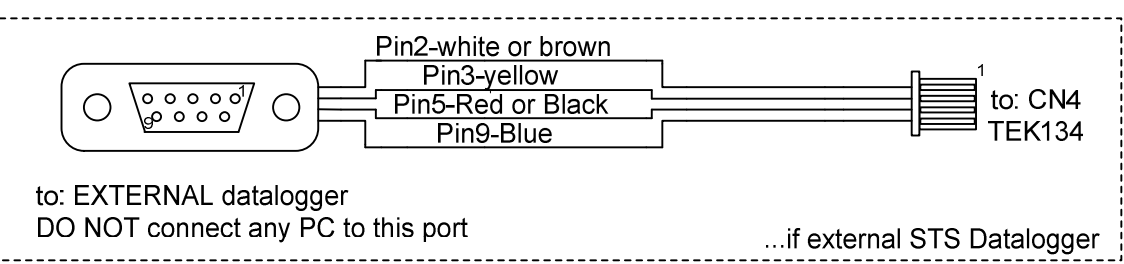
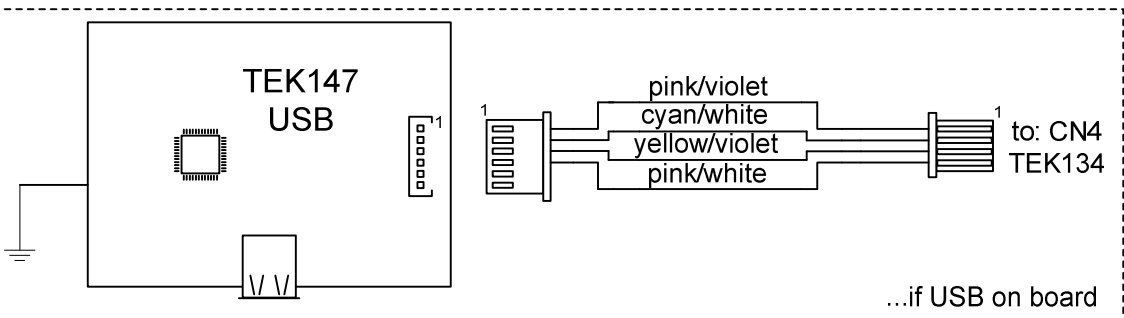
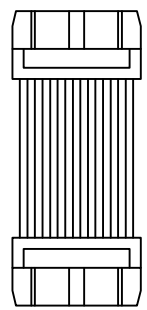
Key



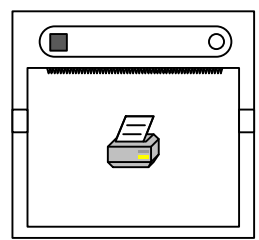
to: CN3
TEK135



to: CN6
TEK134



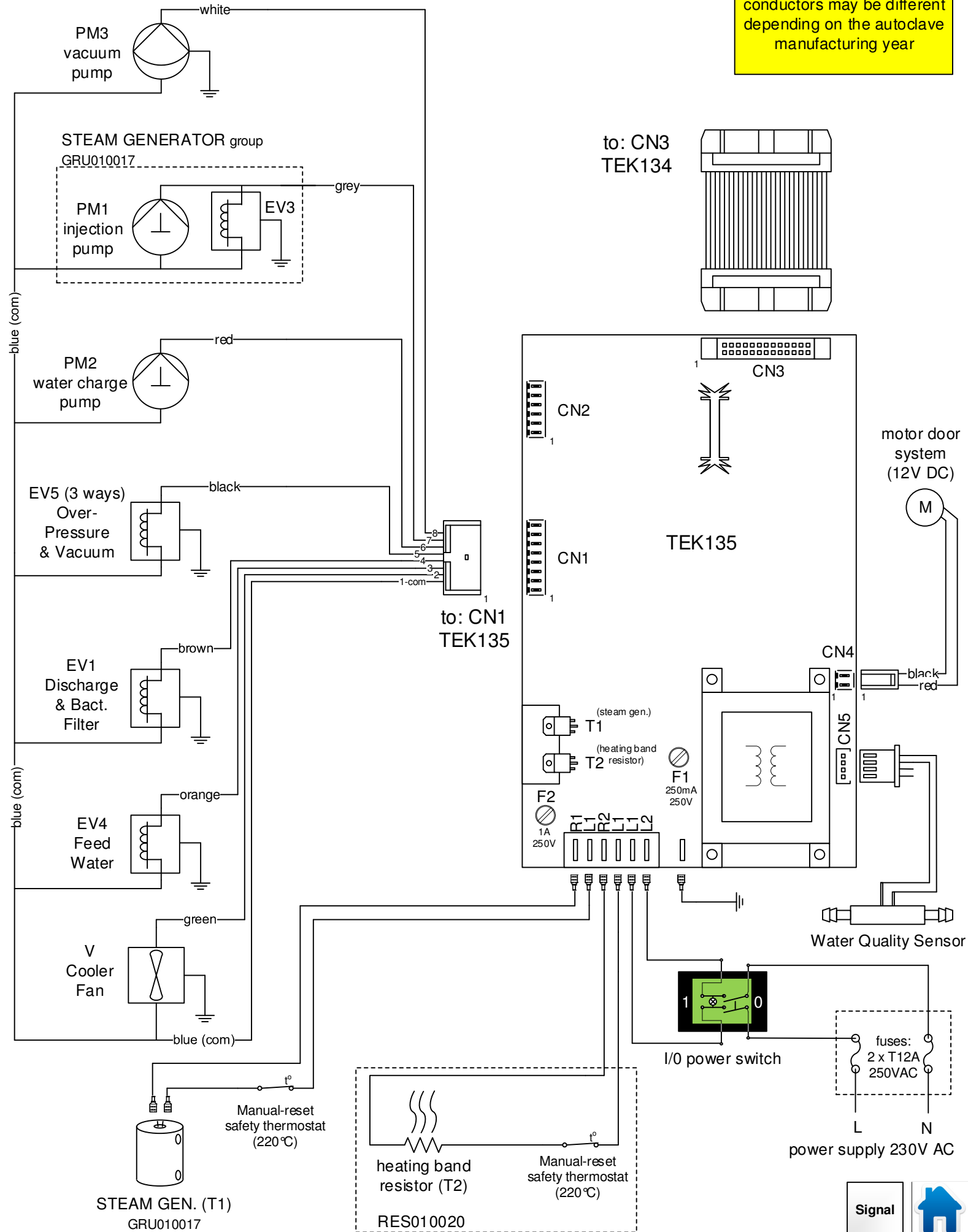
PRINTER



Note: the colors of conductors may be different depending on the autoclave manufacturing year



Note: the colors of conductors may be different depending on the autoclave manufacturing year



GENERIC ALARMS

These alarms may occur throughout the cycle and, with the exception of AL0001, do not depend on the operator.

AL0001 = This occurs if the START/STOP button is pressed for more than 1 sec.

- Reset the alarm and repeat the cycle: if the problem persists,

make sure that the START/STOP button does not stay pressed on its own. In that case replace the keyboard/display board.

AL0002 = This is caused by either a short-circuit or a drop in voltage.

- Check that the machine has not been turned off by the operator during the use;
- Make sure that there have been no power failures during use due to external causes;
- Make sure that the voltage supplied to the autoclave is within the required limits (230 V \pm 10%);
 - Check the 0/1 power switch and its Fast-on connections;
 - Check the fuse holders;
 - Check for short-circuits in the resistors;

Heater band and steam generator, when measured at cold, must have a value between 40 and 50 Ω

- Check the electrical plug and the electrical socket.

AL0003 = This occurs if one of the door control microswitches detects a “door open during the cycle”.

- Check that the microswitches are working correctly during the cycle on both motors;
- Check that the microswitches are not at the limit of intervention (and therefore intervene during the cycle, reversing the contact);

AL0004 = This intervenes 3” after turning the machine on if the clock values (date and time) are outside the range: e.g. **85h 24m 36s**.

- Reset the alarm then set the time and date again;
- If the problem persists, replace the display circuit board battery;
Before use, leave the autoclave on for at least an hour
 - If necessary, replace the display circuit board;In this case, the autoclave serial number MUST be provided.

AL0005 = This is caused by an increase in voltage above 275 V.

In the event of an AL0005 alarm, before using the autoclave, it is advisable to check each electrical/electronic device.

- Make sure that the voltage supplied to the autoclave is within the required limits (230 V \pm 10%);

- If the voltmeter reading indicates a voltage significantly different from that indicated by the display board, contact the manufacturer.

In this case, the autoclave serial number MUST be provided.



ALARM DURING THE VACUUM STAGES

These alarms occur during the vacuum stages therefore, in general, the following should be checked:

1. There are no leaks anywhere in the hydraulic circuit (door seal, solenoid valves connecting hoses, steam generator);
2. The vacuum pump is working correctly (check the internal valves carefully);
3. The cooling fan is working.
4. Check that the radiator has proper ventilation.

AL0011 = This alarm occurs if the 1st vacuum is not reached.

It occurs 15 minutes after the vacuum pump starts up.

This alarm is divided into two parts:

1st part: If the vacuum level reached before the alarm is lower than -0.200 bar (e.g. -0.196 bar):

- Check that the door seal adheres well to the edge of the boiler;
- Check that there is no great loss of pressure;
- Check that the vacuum pump is working.

2nd part: If the vacuum level reached before the alarm is deeper than -0.200 bar (e.g. -0.456 bar):

- Also check that the fan is working and that there are no obvious losses of pressure (vacuum) anywhere in the circuit;
- Check there are any impurities in the solenoid valves;

To do this, you can run an EMERGENCY cycle:

with this type of cycle, it is easier for the technician to search for pressure losses

- Service/replace the vacuum pump.

AL0012 = This alarm occurs if the 2nd vacuum is not reached.

It occurs 15 minutes after the vacuum pump starts up.

- Check there are any impurities in the solenoid valves;

To do this, you can run an EMERGENCY cycle:

with this type of cycle, it is easier for the technician to search for pressure losses

- Check that the vacuum pump is working;
- Check that the fan is working;
- Check the correct functioning of the drain in the previous phase.

AL0015 = This occurs if the minimum vacuum limit is not reached during drying.

(In the presence of this alarm, the machine has already performed sterilization).

- The vacuum pump **MUST** be serviced;
- Check that the fan is working;
- Check there are any obstructions in the drainage circuit.



ALARMS WHILE THE PRESSURE IS RISING

These alarms occur during while the pressure is rising, therefore, in general, the following should be checked:

1. There are no leaks anywhere in the hydraulic circuit (boiler, door, seal, solenoid valve connecting hoses);
2. The water injection pump is working correctly;
3. The steam generator is not blocked by limescale.
4. The resistors are working correctly.

AL0021 = The machine does not reach the 1st set pressure. This occurs 25 minutes after the previous stage has ended.

In most cases, the problem is caused by the steam generator being blocked by limescale.

This means that the injection pump is not able to inject steam into the sterilization chamber.

- Check that the water injection pump is working correctly;
- Check that there are no leaks anywhere in the hydraulic circuit (boiler, door, seal, solenoid valve connecting hoses);
- Check that the steam generator is not blocked by limescale.

AL0022 / AL0023 = The machine does not reach the 2nd a/o the 3rd set pressure. This occurs 15 minutes after the previous stage has ended. Once again, the main cause is the steam generator blocked by limescale.

- Check that there are no leaks anywhere in the hydraulic circuit (boiler, door, seal, solenoid valve connecting hoses);
- Check that the steam generator is not blocked by limescale.

AL0024 = The machine does not reach the sterilization pressure. This occurs 35 minutes after the previous stage has ended.

This alarm is divided into two parts:

1st part: When the alarm occurs, the temperature is below the cycle temperature by more than 2°:

- Check that the injection circuit has no obstructions;

2nd part: When the alarm occurs, the temperature is very close to the cycle temperature (difference <2°C).

In this case, it is almost certainly a heating problem:

- Check that the safety thermostat (located on the band resistor) is enabled;
- Check that the band resistor is working.

Heater band, when measured at cold, must have a value between 40 and 50 Ω

- Check that the value of the TRS probe doesn't exceed the value of T1/T2 temperature probe at the moment of the alarm, otherwise replace the TRS probe.



ALARMS WHILE THE PRESSURE IS BEING DISCHARGED

These alarms occur during while the pressure is being discharged, therefore, in general, the following should be checked:

1. There are no blockages in the part of the hydraulic circuit affected (filter inside the boiler, connecting hoses);
2. The coils of the solenoid valves affected are working correctly;
3. The power circuit board is feeding the solenoid valves affected.

AL0031 / AL0032 / AL0033 = After reaching the pressure, the autoclave fails to discharge the pressure.

This allarms occur 4 minutes after reaching the peak, and are performed by the EV1 and EV5 together.

- Check that the EV1 solenoid valve is working correctly (coil and mechanical part);
 - Check that the solenoid valve itself is fed by the power circuit board;
- Check the external connections between the autoclave and the water mains drain.

AL0034 = After performing sterilization, the machine fails to discharge the pressure.

This occurs 5 minutes after the begins of the drying phase.

The EV1 solenoid value is opened first, followed by the EV5 solenoid valve.

- Make sure there are no blockages in the filter inside the chamber;
- Check that the EV1 solenoid valve is working correctly (coil and mechanical part);
- Check that the EV5 solenoid valve is working correctly (coil and mechanical part);
 - Check that the solenoid valves are fed by the power circuit board;
 - Check if the vacuum pump works well;
- Check the external connections between the autoclave and the water mains drain.



ALARMS RELATED TO THE “T1” TEMPERATURE PROBE

These alarms are usually related to the value read from the T1 temperature probe and its electrical circuit (display board).

This type of alarm, however, is affected by many other factors (e.g. correct installation of the autoclave, use of water of an adequate quality, resistors...). In general, the following should be checked:

1. The “T1” PT1000 probe, connected to the CN8 connector on the display board, is working correctly as shown below:

0°C = ~1000Ω 10°C = ~1039Ω 20°C = ~1078Ω 30°C = ~1117Ω 40°C = ~1155Ω

2. The display circuit board is working correctly.

AL0100 = This alarm is the result of self-diagnosis by the display circuit board.

- Replace the display circuit board.

In this case, the autoclave serial number MUST be provided.

AL0101 / AL0102 = The T1 probe circuit is read as “open” (T1 = 160.0°C) or “short-circuit” (T1 = 000.0°C).

- Check the T1 probe impedance value as shown above;
- If necessary, replace the display circuit board.

In this case, the autoclave serial number MUST be provided.

AL0110 = The values measured by T1 probe has exceeded the maximum allowed value.

- Check that the water injection pump works properly;
- Check that there is no loss of pressure from inside the hydraulic circuit;
 - Check that there is water in the tank;
- Check that the steam generator is not blocked by limescale;
- Check that the autoclave has not been started up with an empty chamber;

- Check that the T1 and T2 temperature probes read the same value (not more than 1 °C) at the moment of the alarm, otherwise replace the temperature probe.

AL0111 = The value read by the T1 probe is lower than the set cycle temperature.

- Check that there is no loss of pressure from inside the hydraulic circuit;
- Check that the band resistor is working correctly;

Heater band, when measured at cold, must have a value between 40 and 50 Ω

- Check that the T1 and T2 temperature probes read the same value (not more than 1 °C) at the moment of the alarm, otherwise replace the temperature probe;

- Check that the value of the TRS probe doesn't exceed the value of T1/T2 temperature probe at the moment of the alarm, otherwise replace the TRS probe.



ALARMS RELATED TO THE “T2” TEMPERATURE PROBE

These alarms are usually related to the value read from the T2 temperature probe and its electrical circuit (display board).

This type of alarm, however, is affected by many other factors (e.g. correct installation of the autoclave, use of water of an adequate quality, resistors...). In general, the following should be checked:

1. The “T2” PT1000 probe, connected to the CN9 connector on the display board, is working correctly as shown below:

0 °C = ~1000Ω 10 °C = ~1039Ω 20 °C = ~1078Ω 30 °C = ~1117Ω 40 °C = ~1155Ω

2. The display circuit board is working correctly.

AL0200 = This alarm is the result of self-diagnosis by the display circuit board.

- Replace the display circuit board.

In this case, the autoclave serial number MUST be provided.

AL0201 / AL0202 = The T2 probe circuit is read as “open” (T2 = 160.0 °C) or “short-circuit” (T2 = 000.0 °C).

- Check the T2 probe impedance value as shown above;
- If necessary, replace the display circuit board.

In this case, the autoclave serial number MUST be provided.

AL0210 = The values measured by T2 probe has exceeded the maximum allowed value.

- Check that the water injection pump works properly;
- Check that there is no loss of pressure from inside the hydraulic circuit;
 - Check that there is water in the tank;
 - Check that the steam generator is not blocked by limescale;
- Check that the autoclave has not been started up with an empty chamber;
- Check that the T1 and T2 temperature probes read the same value (not more than 1 °C) at the moment of the alarm, otherwise replace the temperature probe.

AL0211 = The value read by the T2 probe is lower than the set cycle temperature.

- Check that there is no loss of pressure from inside the hydraulic circuit;
- Check that the band resistor is working correctly;

Heater band, when measured at cold, must have a value between 40 and 50 Ω

- Check that the T1 and T2 temperature probes read the same value (not more than 1 °C) at the moment of the alarm, otherwise replace the temperature probe;
- Check that the value of the TRS probe doesn't exceed the value of T1/T2 temperature probe at the moment of the alarm, otherwise replace the TRS probe.



ALARMS RELATING TO THE “P” PRESSURE TRANSDUCER

These alarms are all related to the P pressure transducer and its electric circuit (CN10 on the display board).

AL0300 = This alarm is the result of self-diagnosis by the display circuit board.

- Replace the display circuit board.

The autoclave serial number MUST be provided.

AL0301 = The P probe circuit is read as “open” (the printout normally shows “P = -1.000 bar”).

- Check the correct connection between the probe and the CN10 connector of the electronic board;
- Check the correct connection between the cable and the pressure transducer;
- Replace the pressure transducer;
- Replace the display circuit board.

The autoclave serial number MUST be provided.

AL0302 = The P probe circuit is read as “short-circuit” (the circuit board shows a blow-out by CN10).

- Replace both the pressure transducer and the display circuit board.

The autoclave serial number MUST be provided.

AL0310 = The value read by the P probe is out of the maximum limits for the set cycle.

Check that the EV5 solenoid valves are working correctly, discharging the excess pressure;

- Replace the pressure transducer;
- Check that the T2 TRIAC located on the power circuit board are working correctly.

AL0311 = The value read by the P probe is out of the minimum limits for the set cycle.

- Check that the thermostat of the band resistor is enabled;

Check that the band resistor is working correctly;

Heater band, when measured at cold, must have a value between 40 and 50 Ω

- Checked there is no loss of vacuum anywhere on the hydraulic circuit;
- Check that the T2 TRIAC located on the power circuit board are working correctly.



ALARMS RELATED TO THE “TVP” TEMPERATURE PROBE

These alarms are usually related to the TVP temperature probe and its electrical circuit (display board).

In general, the following should be checked:

1. The “TVP” PT1000 probe, connected to the CN11 connector on the display board, is working correctly as shown below:

0°C = ~1000Ω 10°C = ~1039Ω 20°C = ~1078Ω 30°C = ~1117Ω 40°C = ~1155Ω

2. The display circuit board is working correctly.

3. There are no problems on the T1 TRIAC on the power circuit board.

AL0400 = This alarm is the result of self-diagnosis by the display circuit board.

- Replace the display circuit board.

The autoclave serial number MUST be provided.

AL0401 = The TVP probe circuit is read as “open” (TVP = 240.0°C).

- Check the TVP probe impedance value as shown above;
- Replace the temperature probe;
- If necessary, replace the display circuit board.

The autoclave serial number MUST be provided.

AL0402 = The TVP probe circuit is read as “short-circuit” (TVP = 000.0°C).

- Check the TVP probe impedance value as shown above;
- Replace the temperature probe;
- If necessary, replace the display circuit board.

The autoclave serial number MUST be provided.

AL0404 = The value read by the TVP probe remains at room temperature

- Check that the thermostats of the steam generator is enabled;
- Check that the steam generator is working correctly;

Steam generator, when measured at cold, must have a value around 40/50 Ω

- Check that the circuit board is feeding the steam generator.

AL0405 = The value read by the TVP probe is >210.0°C.

- Check the TVP probe impedance value as shown above;
- Replace the temperature probe;

- Check that the T1 TRIAC located on the power circuit board are not damaged or short-circuited.



ALARMS RELATED TO THE “TRS” TEMPERATURE PROBE

These alarms are usually related to the TRS temperature probe and its electrical circuit (display board).

In general, the following should be checked:

1. The “TRS” PT1000 probe, connected to the CN12 connector on the display board, is working correctly as shown below:

0°C = ~1000Ω 10°C = ~1039Ω 20°C = ~1078Ω 30°C = ~1117Ω 40°C = ~1155Ω

2. The display circuit board is working correctly.
3. There are no problems on the T2 TRIAC on the power circuit board.

AL0500 = This alarm is the result of self-diagnosis by the display circuit board.

- Replace the display circuit board.

The autoclave serial number MUST be provided.

AL0501 = The TRS probe circuit is read as “open” (TRS = 160.0°C).

- Check the TRS probe impedance value as shown above;
- Replace the temperature probe;
- If necessary, replace the display circuit board.

The autoclave serial number MUST be provided.

AL0502 = The TRS probe circuit is read as “short-circuit” (TRS = 000.0°C).

- Check the TRS probe impedance value as shown above;
- Replace the temperature probe;
- If necessary, replace the display circuit board.

The autoclave serial number MUST be provided.

AL0504 = The value read by the TRS probe remains at room temperature

- Check that the thermostat of the band resistor is enabled;
- Check that the heater band is working correctly;

Heater band, when measured at cold, must have a value between 40 and 50 Ω

- Check that the circuit board is feeding the heater band.

AL0505 = The value read by the TRS probe is >150.0°C.

- Check the TRS probe impedance value as shown above;
- Replace the temperature probe;
- Check that the T2 TRIAC located on the power circuit board are not damaged or short-circuited.



ALARMS RELATED TO THE “VACUUM TEST” CYCLE

These alarms are determined by the “pressure gradient” recorded.

Usually related to fittings needing repair or solenoid valves that are dirty or worn out.

In general, the following should be checked there is no loss of vacuum anywhere on the hydraulic circuit

AL0600 = The alarm occurs during the first 5 minutes (STABILIZATION) if

$$(p2-p1) > 0.1(p0-p1)$$

- Check that there are no obvious losses of pressure (vacuum) anywhere in the circuit. To do this, you can activate the EMERGENCY CYCLE from the user menu: with this type of cycle, it is easier for the technician to search for pressure losses:

- Check and repair the fittings directly connected to the sterilization chamber;
 - Check that all the solenoid valves are perfectly tight.

AL0601 = The alarm occurs during the first 10 minutes (MAINTENANCE) if

$$(p3-p2)/10 > 1.3 \text{ mbar}$$

- Check and repair the fittings directly connected to the sterilization chamber;
 - Check that all the solenoid valves are perfectly tight.

If the leak is between about 14 and 30 mbar, repair the fittings directly connected to the sterilization chamber, especially the fitting of the steam generator and the fitting of the pressure transducer.

If the loss is greater than 30 mbar, check that there are no impurities inside EV1 and EV5. Also check the integrity of the Teflon tubes.



ALARMS RELATED TO THE “T1” and “T2” TEMPERATURE PROBES

This alarm occurs if the comparison between T1 and T2 generates a difference $>2.0^{\circ}\text{C}$.

AL0700 = This alarm occurs during STERILIZATION only.

1. The “T1” PT1000 probe, connected to the CN8 connector on the display board, is working correctly as shown below:

$0^{\circ}\text{C} = \sim 1000\Omega$ $10^{\circ}\text{C} = \sim 1039\Omega$ $20^{\circ}\text{C} = \sim 1078\Omega$ $30^{\circ}\text{C} = \sim 1117\Omega$ $40^{\circ}\text{C} = \sim 1155\Omega$

2. The “T2” PT1000 probe, connected to the CN9 connector on the display board, is working correctly as shown:



“T1” and “T2” TEMPERATURE PROBES CALIBRATION

The temperature probes calibration should always be carried out while the autoclave is operating, during the STERILIZATION phase and only by means of a calibrated control instrument to make a comparison.

You can access the probes set-up area at any moment, by **keeping** the SELECT button **pushed** and pushing the DOOR button three times. When, in the fourth line of screen, you will read value **T01**... release SELECT button.

It is possible to modify the probe default **T01**... (1st INTERNAL SENSOR) with DOOR and PUMP (WATER) buttons: after the probe read-out has been aligned with the comparison instrument value, store the parameter by pushing PUMP and DOOR buttons at the same time until you hear the confirm sound. Move on to **T02**... (2nd INTERNAL SENSOR) with SELECT button. The variation and storage modes are exactly the same as those indicated above.

It is possible to modify also probe **P** (PRESSURE), **TVP** (STEAM GENERATOR) and **TRS** (HEATER BAND) but we recommend not to modify the **P** setting.

Exit probes set-up by keeping SELECT button pushed.

Instructions:

SELECT + 3 DOOR	= set-up access
DOOR	= increases default value
PUMP (WATER)	= decreases default value
DOOR +PUMP until sound	= stores variations
SELECT	= moves on to the next value
SELECT keep pressed	= exits set-up

Probes identification:

T01	= 1 st internal sensor
T02	= 2 nd internal sensor
P	= pressure transducer
TVP	= Steam generator sensor
TRS	= Heater band sensor

Counters

Pressing SELECT once again to access to the counters menu

SERVICE : counter of cycles performed since the last service. When the maximum value is reached, the message "SERVICE" appears on the display, at which point it is necessary to perform the ordinary maintenance using the service kit.

H2O : counter of cycles performed with water of POOR quality. When the maximum is reached, the word "BAD WATER" appears on the display, at which point it is necessary to check and replace the filters of the water purification system.

BACT FILTER: counter of the cycles performed since the last change of the bacteriological filter. When the maximum value is reached, the message "BACT FILTER" appears on the display, at which point it is necessary to replace the bacteriological filter and reset the alarm.

PM3: cycle counter in which the vacuum pump took longer than necessary to reach the vacuum. When the maximum value is reached, the message "SERVICE PM3" appears on the display, at which point it is necessary to make a service of the vacuum pump and make sure that the cleaning operations of the instruments are carried out correctly.

