

# AK 98 RESOURCE GUIDE

Code	Machine Screen Guidance	RESOLUTION
100	<b>Air in Venous Drip Chamber</b> Press Timer button, then turn the knob to increase drip chamber level.	<ul style="list-style-type: none"> <li>• If level has dropped or foam is present in the chamber, touch the clock symbol on the screen.</li> <li>• Attempt to resolve by SLOWLY increasing the level in the venous chamber using the level adjustment knob, ensure that the blood pump is moving.</li> <li>• Be sure to watch for the message “Air no longer detected” and confirm on the screen if appropriate.</li> <li>• May require multiple attempts depending on the amount of air present.</li> <li>• May indicate clotting in the venous chamber. Be sure to visually inspect the chamber for signs of clotting.</li> </ul>
101	<b>Blood Detected in Dialysate Path</b> To start blood pump for {0} sec. to rinse detector, press Timer button.	<ul style="list-style-type: none"> <li>• Indicates that a blood leak may have occurred during treatment.</li> <li>• May occur immediately following priming of a new BiCart cartridge.</li> <li>• Follow your facility specific policy when a blood leak alarm occurs during patient treatment.</li> </ul>
102	<b>Blood is Detected During Functional Check</b> Blood in priming detector. Functional check is stopped.	<ul style="list-style-type: none"> <li>• Consider powering the machine down by pressing and holding the on/off button located on the operator panel to the right of the screen.</li> <li>• While power is off, ensure that the prime sensor has been cleaned with isopropyl alcohol and allowed to dry.</li> <li>• Power the machine on and allow it to go through Functional Check.</li> <li>• Repeat cleaning if necessary. If alarm continues to recur, call Technical Services.</li> </ul>
107	<b>Blood Pump is Stopped too Long</b>	<ul style="list-style-type: none"> <li>• Prompts the user to restart the blood pump when it has not been restarted in 180 seconds.</li> <li>• Manually start the blood pump using the blood pump button to the right of the screen.</li> <li>• If another alarm has caused the stoppage, resolve the primary alarm so the blood pump can start.</li> <li>• This may require going back to messaging under the flashing hand.</li> </ul>
108	<b>Dialysate Path Obstruction</b> Too high blood circuit pressure. Check circuit, start blood pump.	<ul style="list-style-type: none"> <li>• Do not hand crank the blood pump to resolve alarm situation.</li> <li>• Consider checking the drain line to ensure it is not obstructed.</li> <li>• Ensure there are no kinks or clamps on the blood lines.</li> <li>• May indicate clotting in the blood circuit. Consider assessing the blood set/patient access for signs of clotting.</li> </ul>

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109	<b>High Arterial Pressure</b>	<ul style="list-style-type: none"> <li>This may be a secondary alarm, resulting from a stop of the blood pump.</li> <li>Ensure there are no kinks or clamps closed on the blood tubing.</li> <li>Consider opening (widening) the Arterial Pressure window on the screen and using the green or red arrows to get the grey dial into the green area of the pressure limits so that the pump can restart.</li> <li>Check the transducer protector for potential strikethrough, if blood has contacted the protector membrane – replace with a sterile transducer protector if necessary.</li> <li>Consider needle dislodgement, check connection of arterial needle with arterial line.</li> </ul>
114	<b>High Venous Pressure</b>	<ul style="list-style-type: none"> <li>Consider lowering the pump speed while the pump is stopped using the blood pump down button (-) to the right of the screen.</li> <li>Alarm recurrence may indicate a mechanical obstruction – access complications, kinks, or poor flow within vascular access related to the set pump speed.</li> <li>May also indicate clotting in the venous chamber.</li> <li>Check the transducer protector for potential strikethrough, if blood has contacted the protector membrane – replace with a sterile transducer protector if necessary.</li> </ul>
115	<b>Low Arterial Pressure</b>	<ul style="list-style-type: none"> <li>Consider lowering the pump speed while the pump is stopped using the blood pump down button (-) to the right of the screen.</li> <li>May indicate a mechanical obstruction - access patency issues, kinks, or poor flow within vascular access related to the set pump speed.</li> </ul>
120	<b>Low Venous Pressure</b> Check the venous needle position or catheter lumen.	<ul style="list-style-type: none"> <li>Consider needle dislodgement, potential clotting before the dialyzer, or a wet transducer protector.</li> <li>May be triggered by raising the venous chamber level using the level adjustment knob without the blood pump running – consider turning the knob slowly toward yourself (clockwise) to resolve pressure issues.</li> </ul>
123	<b>Technical Error</b> The machine has been automatically restarted. To continue press Confirm.	<ul style="list-style-type: none"> <li>Press the Confirm key on the screen to continue treatment.</li> <li>Proceed to the Functions key, Service, and then to the Error List tab at the top of the screen.</li> <li>Note the error code on the Error List (most recent at the top).</li> <li>If the alarm recurs, contact Technical Services and provide the full error code.</li> </ul> <p><i>AK 98 is continuously supervising the computers used to run treatment. If the system identifies a problem, it will generate an automatic restart to restore a fully operational system.</i></p>

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124	<b>Technical Error</b> Contact technical service.	<ul style="list-style-type: none"> <li>• Most commonly occurs during the Functional Check.</li> <li>• Consider powering the machine down by pressing and holding the on/off button located on the operator panel to the right of the screen. Note this is not possible during treatment.</li> <li>• Ensure the dialysate connectors are properly seated on their dialysate ports.</li> <li>• Check that there are no parts of the blood tubing strung on the machine before the blood pump button is flashing.</li> <li>• Verify that the acid concentrate connector and BiCart arms are free of build-up.</li> <li>• Power the machine on. If the alarm recurs, consider contacting Technical Services.</li> </ul>
203	<b>Heparin Pump is Overloaded</b> Check heparin line for obstruction.	<ul style="list-style-type: none"> <li>• May be triggered by a closed clamp on the heparin infusion line or the heparin syringe is empty.</li> <li>• Consider setting the heparin flow rate to 0mL if the syringe is empty.</li> <li>• If alarm recurs, consider removing the syringe from the pump and pulling the piston out to the right.</li> </ul>
208	<b>Incorrect Dialysate Composition</b> Check set values and connected concentrates.	<ul style="list-style-type: none"> <li>• Check that the acid jug container is filled or that the wall connection is secure.</li> <li>• Press the fluid key and go to the Cond tab; if the "Actual" conductivity doesn't reach its set value, the machine may be unable to pull concentrates.</li> <li>• Verify that the red concentrate connector is free from build-up and that the blue O-rings are intact.</li> <li>• If needed, remove BiCart cartridge and shake to eliminate any clumping.</li> <li>• If the "Actual" conductivity number is not fluctuating after a few minutes, send the machine into a Rinse by selecting the Disinfect key, going to the Rinse tab, and selecting "Rinse" – reconnect the concentrates and monitor the conductivity.</li> <li>• If air is present in the acid line, wait – the air may need to be cleared from the acid line by the machine. The machine will not airlock.</li> </ul>
211	<b>Conductivity Out of Limits</b> When the dialysis fluid conductivity is outside the set alarm limit.	<ul style="list-style-type: none"> <li>• Check that the concentrate containers/BiCart cartridge are correctly connected, filled and not empty .</li> <li>• Check that there is not air or kinking in the concentrate wand and that wands are not sucking air.</li> <li>• Check that the BiCart cartridge has primed if the cartridge was dry when added to the machine – if not, consider removing, shaking to eliminate clumping, and reattaching to the arms.</li> <li>• Reminder, when priming a BiCart cartridge during therapy, the BiCart arms must be closed for 2 seconds to initiate the priming process.</li> </ul>
566	<b>Incorrect Conductivity</b> When the conductivity is not correct during a functional check.	<ul style="list-style-type: none"> <li>• Check acid connector and BiCart arms for buildup and/or leaking.</li> <li>• Press fluid button and select Cond tab and see if the concentrate selected for the treatment is the same as the acid jug connected to the machine.</li> <li>• Wait until set conductivity is achieved.</li> </ul>

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607	<b>Wrong Disinfectant</b> Check disinfectant. To continue press Confirm.	<ul style="list-style-type: none"> <li>• Check that the correct concentration of disinfectant is connected to the machine – citric acid or bleach percentages.</li> <li>• Verify that the citric acid wand is below the level of the fluid in the jug.</li> <li>• If precipitate is found at the bottom of the citric acid jug, consider removing the wand and mixing the jug.</li> <li>• Consider that crystallization of the citric acid wand may have occurred, and the line may have to be purged with RO water.</li> <li>• Always follow the manufacturer's instructions when reconstituting citric acid.</li> </ul>
538 - 543	<b>Dialysate Line Sensor Test</b> Remove and attach the dialysate lines from the dialysate ports to restart the test.	<ul style="list-style-type: none"> <li>• May occur if five disinfection programs have been run in a row, without running function checks in between.</li> <li>• Remove the dialysate lines from the dialysate ports on the machine.</li> <li>• Ensure the lines are resealed properly.</li> <li>• Once resealed, the test will continue and message on screen will clear shortly.</li> </ul>
571	<b>Leakage Test Failed</b> Check dialysate lines. To continue press Confirm.	<ul style="list-style-type: none"> <li>• Appears when the dialysate lines are not properly attached to the dialysate ports.</li> <li>• Check the dialysate lines are properly attached to the dialysate ports.</li> <li>• Confirm the attention.</li> </ul>

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# AK 98 RESOURCE GUIDE: HELPFUL TIPS

## Air Detector Activation

To avoid unnecessary air detector alarms during set up, wait to activate the air detector until all air has been removed from the circuit.

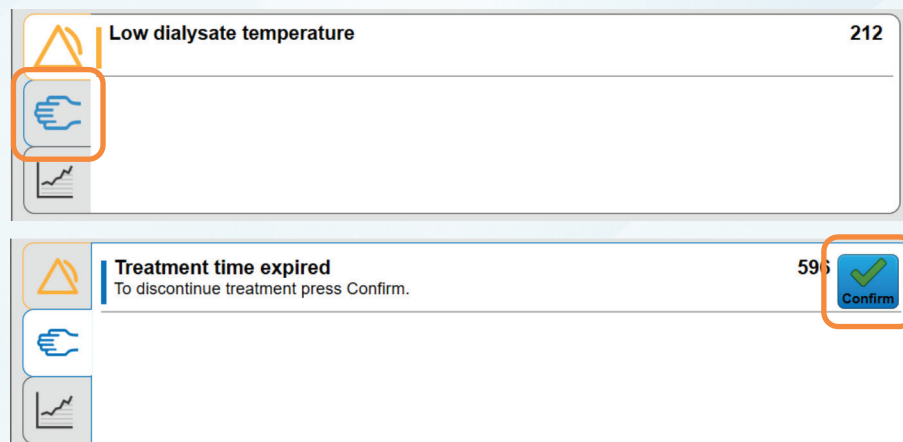
*Note: The air detector is automatically activated when **Connect patient** is selected.*

## The “Flashing” Attention Hand

Alarms have higher priority than attention messages on the screen. This means that if an alarm occurs and cannot be resolved, discontinuing the treatment may only be possible by pressing the **flashing attention hand** on the screen.

Once the **flashing attention hand** is selected, the “Confirm treatment time expired” message will be accessible.

*Note: It may be necessary to repeat this sequence to complete the treatment discontinuation procedure.*

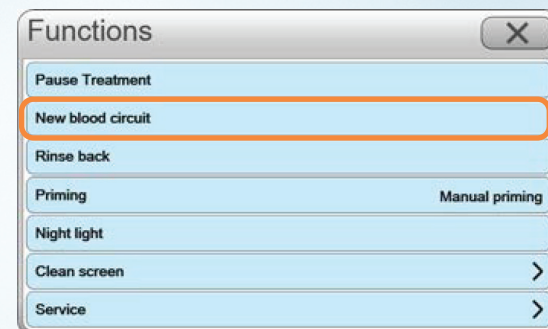




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## New Blood Circuit

In the event the dialyzer and bloodlines need to be replaced, go to the **Functions** menu and select **New blood circuit**.



Follow the instructions on the screen. It is not necessary to end the treatment and start again to replace the circuit. Once the procedure is complete, the treatment will continue from when it was stopped.

It is important to follow the instructions provided on the operator's panel in the sequence listed. Steps performed out of sequence may delay the option for priming and return to treatment mode. Once started, the new blood circuit procedure must be completed.

## Change Blood Flow

To increase/decrease blood flow faster than repeated single pushes, hold down the + or – button to the right of the operator's panel.



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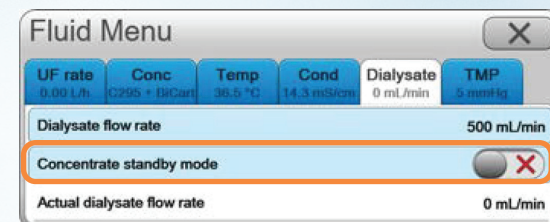


# AK 98 RESOURCE GUIDE: HELPFUL TIPS

## Reactivate Concentrate Standby Mode (CSBM)

CSBM will automatically deactivate after 1 hour.

To reactivate CSBM press the **Fluid** key followed by the **Dialysate** tab and activate CSBM. Repeat every hour as needed.

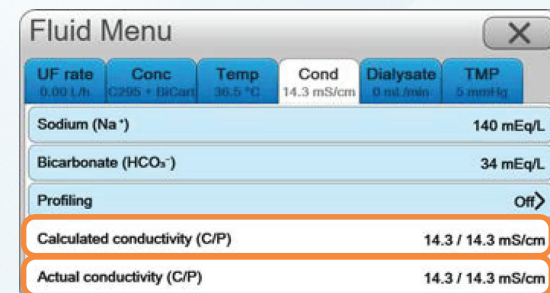


## Conductivity Actual and Calculated - C/P Values

The **actual value** is the current value seen on the operator's panel.

The **calculated value** is based on the type of concentrate selected and the set values for sodium and bicarbonate.

*Note: If the two values do not match, the dialysate will automatically bypass the dialyzer.*

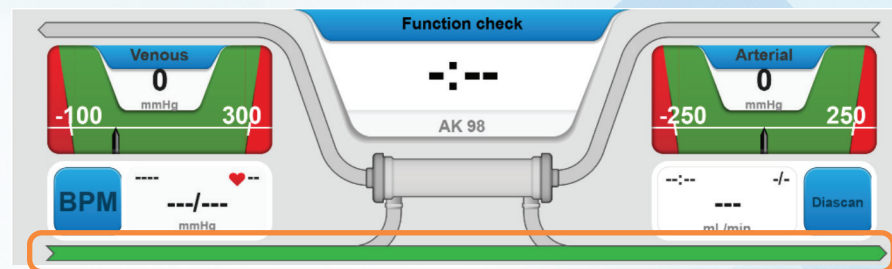


## Connect Patient after CSBM

**Connect patient** mode can only be entered if the correct conductivity has been achieved (dialysate line is green).

If **Connect patient** is pressed immediately following CSBM deactivation, the message "Incorrect dialysate composition, check dialysate. To close message, press Confirm" may appear.

Wait to press **Connect patient** until dialysate line on the operator's panel is green.



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## Diascan

The Diascan function can be programmed via the presets to be activated automatically.

It is also possible to enter the patient parameters (Watson) after treatment has started so that the Kt/V calculation can be displayed.



**Diascan Menu**

Setup 30 minutes | **Watson 2 L** | History

Enter parameters

Gender	
Height	0 cm
Weight	0.0 kg
Age	0 years
Distribution volume (Watson)	2 L

## Heparin

Tips to support accurate heparin delivery:

- Ensure the syringe used is the same as the brand and size programmed into the AK 98 presets, or the heparin delivery may not be accurate.
- Confirm that heparin line is fully primed.

To view the syringe brand and size, go to **Blood Menu** and select **Heparin**.



**Blood Menu**

Heparin 0.0 mL | Blood flow 0 mL/min | Single needle 200 mL

Heparin bolus dose	0.0 mL
Heparin flow rate	0.0 mL/h
Stop time	0:20 H:MM
Start heparin priming bolus immediately	
Syringe	BD 20ml
Heparin volume infused	0.0 mL

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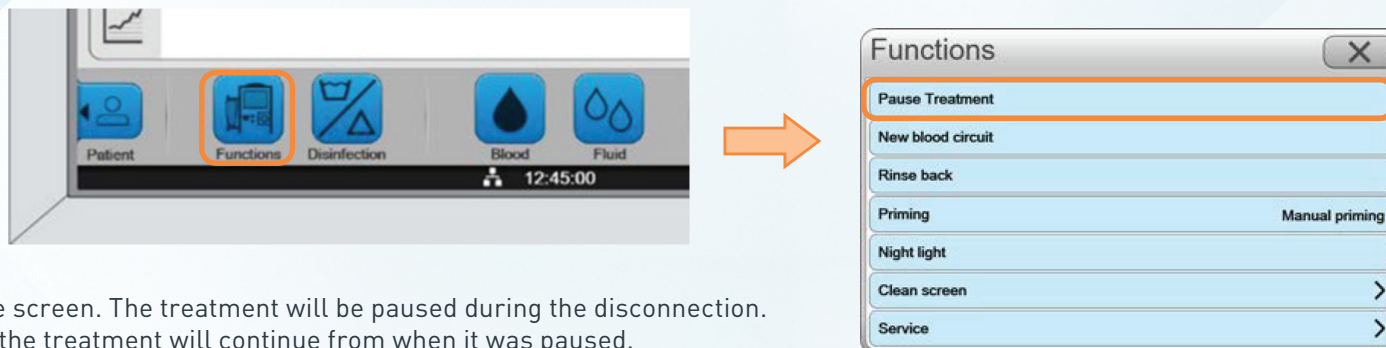
## Isolated UF (Ultrafiltration)

- To stop UF before the set isolated UF goals are met, deactivate **Isolated UF** and change the time and volume to values that have already been achieved (i.e., **Isolated UF acc values**).
- If only isolated UF is being performed, the remaining treatment time must also be set to zero to get the "Treatment time expired" message.
- If "Value out of range. The value can't be higher than 0.00 L " appears, first set the **Total UF** and then the **Isolated UF** goal.

*Note: The dialysate flow will not stop, as AK 98 needs dialysate to measure ultrafiltration. It is not possible nor advisable to decrease dialysate flow rate or set it to zero.*

## Pause Treatment

If a temporary disconnection of the patient from the AK 98 machine is needed, go to the **Functions** menu and select **Pause Treatment**.



Follow the instructions on the screen. The treatment will be paused during the disconnection. When treatment is resumed, the treatment will continue from when it was paused.

## Restart

If restarting using the **On/Off** button located on the operator's panel, to the right of the screen, ensure the dialysate lines are properly connected to the color-coded standby ports on the machine before restarting the AK 98. This will avoid unnecessary error messages.



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## Saline Loss

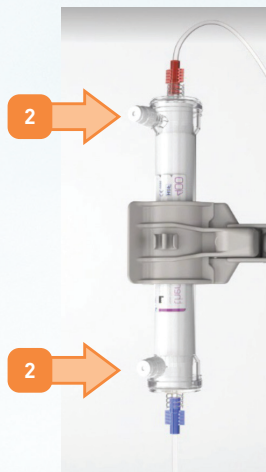
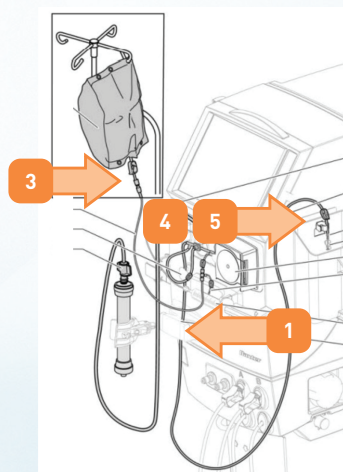
The arterial patient line is primed by gravity and is not counted in the preset prime volume.

*Example: If the priming volume is set to 300ml, the remaining saline volume in a 1-liter saline bag after the complete prime procedure would be less than 700ml.*

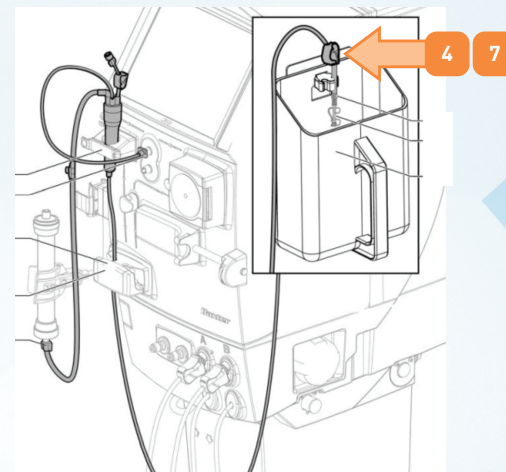
Tips to minimize saline loss during set up:

1. Verify the venous line is properly inserted in the venous clamp.
2. Ensure the caps are secured on the dialyzer dialysate ports.
3. Clamp the infusion line before spiking the saline bag.
4. Ensure the arterial bloodline clamp is open and venous clamp is closed when gravity priming of arterial line.
5. Clamp the arterial line as soon as saline has reached the prime bucket (some air may still be present).
6. Ensure priming via the blood pump occurs as soon as the arterial line is primed.
7. Unclamp the blue venous clamp before starting the blood pump.
8. Raise the venous chamber level during the initial prime cycle.
9. Connect arterial and venous lines for recirculation before selecting the **Recirculation** option.

Arterial blood line



Venous blood line



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