## TITLE: Preventative Maintenance for ABL90 Flex Plus

## PRINCIPLE: Daily and weekly maintenance procedures ensure the instrument’s optimal operational capabilities. As needed maintenance items are used for specific purposes not performed on a periodic basis. These activities must be performed to maintain the maximum reliability and accuracy of the ABL80-CoOx.

**PERSONNEL:** Medical Technologists and Technicians

## REAGENTS AND EQUIPMENT:

See individual maintenance sections.

## STEPWISE PROCEDURE:

Warning: Gloves must be worn when performing preventive protective maintenance procedure to avoid contact with biohazardous materials.

1. Daily Maintenance
   1. Clean counters with Dispatch Wipes (or equivalent) or 10% Bleach solution made up daily.
   2. Clean the external surface and LCD screen with a soft cloth or lint-free tissue moistened with water. Remove any remaining moisture with soft, dry cloth or lint-free tissue.
   3. Verify the Status light is “Green”
   4. Check temperatures on room temperature thermometers and record on the Room temperature log.   
      ***Ranges: Room Temperature: <25oC or <77oF***  
      Document any deviations from the acceptable ranges and corrective actions.
2. Monthly Maintenance
3. Data files:

Data is automatically saved in AQURE with continuous monitoring and reviewed by the lead technologist or designee.

1. Cleaning the Inlet Gasket:
2. Tap **Menu** > **Analyzer status**
3. Tap the **Other activities > Inlet check > Clean Inlet gasket** buttons
4. Tap the **Press to start video guidance** button.
5. Make sure the Inlet Probe is not bent. If it is bent, replace it.
6. Dampen a lint free cloth with water.
7. Tap the **Action completed** button.
8. Gently wipe the inlet gasket and the area around it until it is clean.
9. Tap the **Action completed** button. The analyzer closes the inlet.
10. Cleaning the Analyzer Exterior:

The analyzer exterior can be cleaned, as needed, with a lint free cloth dampened with water or 70% Isopropyl Alcohol.   
**Note:** Radiometer has not tested whether cleaning wet wipes can be used for this purpose.  
**Note:** The Sensor Cassette compartment and the top surface of the Solution Pack compartment must be cleaned by a Radiometer representative.

1. Cleaning the Touch Screen:
2. Lightly dampen a clean, damp, lint free cloth with tap water or 70% Isopropyl Alcohol.
3. Put your finger on a part of the screen that is not active and hold it there.
4. Gently wipe the screen.   
   Never allow moisture to settle at the bottom of the screen.

Note: Do not use bleach (sodium hypochlorite) products on the touch screen.

1. Cleaning the QUALICHECK Opener/Adapter:
2. Lightly dampen a lint free cloth with DI water or 70% Isopropyl alcohol or 5% Bleach solution
3. Gently wipe the QUALICHECK Opener/Adapter.
4. Quarterly
5. **ctHb Calibration**   
   The suggested frequency of the ABL80 Flex CoOx analyzer’s spectrometer is once every three months using the ctHb Calibration Solution S7770. The analyzer will warn the user (yellow traffic light status) when the ctHb calibration is due.  
   Refer to ***ABL80-CoOx Linearity, ctHb - Calibration and Method Comparison***for procedure.
6. **Semi-Annually/Annually**
7. **Linearity study of blood gas analytes**The suggested frequency of the Linearity study is once every six months using the VK-R5 Linearity Kit. Refer to ***ABL80-CoOx Linearity, ctHb - Calibration and Method Comparison***for procedure.
8. **Method Comparison of Hematology Analyzer vs. ABL90 FLEX Plus**  
   The suggested frequency of the Method Comparison of ctHb study is once every six months. Refer to ***ABL80-CoOx Linearity, ctHb - Calibration and Method Comparison***for procedure.
9. **Annual PM – ABL90 FLEX Plus** performed by Service Technician.
10. **As Needed Maintenance**
11. **Replacing the Inlet Probe**Required: a new Inlet Probe. (You may be able to gently straighten the probe without replacing it)
12. Tap **Menu > Analyzer Status.**
13. Tap the **Other activities > Inlet check > Repl. Inlet probe** buttons.
14. Tap the **Press to start video guidance** button.
15. Pull off the inlet cover.
16. Tap the **Action completed** button. The analyzer opens the inlet.
17. Pull out the Inlet Gasket Holder.
18. Tap the **Action completed** button.
19. Lift up the Inlet Probe as far as it will go and pull it to the right to remove it.
20. Tap the **Action completed** button.
21. Hold the new Inlet Probe (or straightened Inlet Probe) in a vertical position and put in place.
22. Lower the Inlet Probe.
23. Tap the **Action completed** button.
24. Put the new Inlet Gasket holder over the slide and insert it. Make sure that the Inlet Probe is in the center of the gasket.  
    **Note:** Make sure the Inlet Gasket Holder clicks in place.
25. Tap the **Action completed** button. The analyzer closes the inlet.
26. Put on the inlet cover.
27. Tap the **Action completed** button.
28. **Replacing the Inlet Gasket Holder**Required: a new Inlet Gasket Holder
29. Tap **Menu > Analyzer Status.**
30. Tap the **Other activities > Inlet check > Repl. Inlet Gasket Holder** buttons.
31. Tap the **Press to start video guidance** button.
32. Pull off the inlet cover.
33. Tap the **Action completed** button. The analyzer opens the inlet.
34. Pull out the Inlet Gasket Holder.
35. Tap the **Action completed** button.
36. Put the new Inlet Gasket Holder over the slide and insert it. Make sure that the Inlet Probe is in the center of the gasket.  
    **Note:** Make sure the Inlet Gasket Holder clicks in place.
37. Tap the **Action completed** button. The analyzer closes the inlet.
38. Put on the inlet cover.
39. Tap the **Action completed** button.

1. **Replacing the Inlet Connector Gasket**Required: a new Inlet Connector Gasket and a pair of tweezers
2. Tap **Menu > Analyzer Status.**
3. Tap the **Other activities > Inlet check > Repl. Inlet Connector gasket** buttons.
4. Tap the **Press to start video guidance** button.
5. Pull off the inlet cover.
6. Tap the **Action completed** button. The analyzer opens the inlet.
7. Hold the Inlet Module as shown and pull to the right.
8. Make sure that the tabs on the inner side of the Inlet Module are in the correct position.
9. Tap the **Action completed** button.
10. Pull out the Inlet Connector Gasket with a pair of tweezers.
11. Tap the **Action completed** button.
12. Put tap water on the new Inlet Connector Gasket.
13. Tap the **Action completed** button.
14. Push the new Inlet Connector Gasket in place as shown. 
15. Tap the **Action completed** button.
16. When the analyzer tells you to, hold the Inlet Module as shown and push the end into the inlet connector until it clicks in place.
17. Tap the **Action completed** button. The analyzer closes the inlet.
18. Put on the inlet cover.
19. Tap the **Action completed** button.
20. Thermometer check against NBS when thermometers are put in service and/or periodically as needed.

PROCEDURAL NOTES

There are procedures and record charts in the preventive maintenance book for all these functions. See these procedures for recording your results and more information.

**REFERENCES:**

**ABL90 FLEX Plus** Instructions for Use Manual