Periodic Maintenance

NOTE: For access to the full user manual for this product, please visit www.heska.com/productmanuals.

In order to keep the analyzer performance at its best, periodic user maintenance and specific Heska service maintenance must be followed.

⚠ CAUTION

Do not use alcohol for cleaning the sampler cover (translucent) or surface damage may occur.

NOTE: When cleaning the outer covers of the equipment, wipe with a soft cloth moistened with water.

Part	Cleaning	Inspection	Replacement
Air filter	Once a month.	-	-
Incubator	Once every three months or when inaccurate test results occur.	-	-
ISE unit	Once every three months or when inaccurate test results occur.	-	-
Spotting part	Every three months along with the incubator and ISE unit. Also when slide transfer error or contamination with sample occurs.	-	-
Slide reader	When frequent reading errors occur.	-	-
Recording paper	-	-	Appearance of red lines (both sides of paper).
Light source lamp	-	-	When a lamp replacement error occurs, or the lamp's cumulative illumination time exceeds 1000 hours.
Sampler o-ring	-	Every 3 months.	-
Fuse	-	-	At burnout.

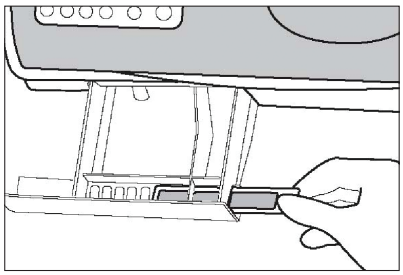
Monthly Maintenance

Cleaning the Air Filter

The air filter may become dirty in some environmental conditions. Check and clean at least once a month.

IMPORTANT

If the air filter is not cleaned, the analyzer temperature will not be regulated properly with adverse effects on test results.



Cleaning procedures

1. Pull out the air filter.
2. Remove dust adhering to the filter with a paper towel, a vacuum cleaner or running water.
3. Put the filter back.

NOTE: If washed with water, make sure it is dried before replacing.

IMPORTANT

If the analyzer is used without the filter, test results may be adversely affected.

Quarterly Maintenance

Cleaning the Incubator and ISE Unit

Sample contamination of the incubator may affect test results. Clean the incubator at least once every three months.

⚠ CAUTION

Turn off the analyzer when cleaning the incubator or the ISE unit.

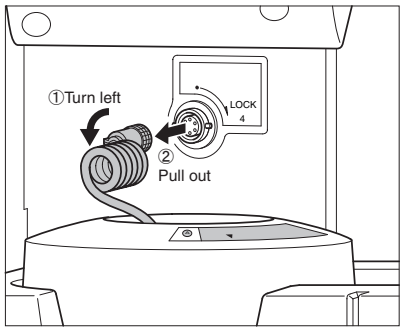
IMPORTANT

If the analyzer is used without cleaning the incubator and the ISE unit, test results may be adversely affected.

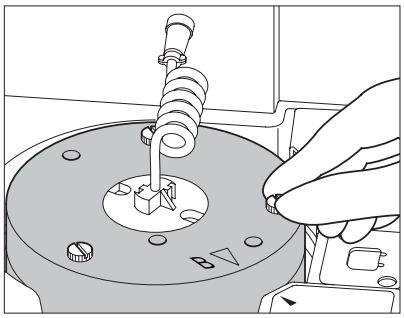
Cleaning procedures

1. Turn the power switch OFF.
2. Open the sampler cover and the keyboard.
3. Unplug the incubator cable connector. Turn connector counter clockwise and pull out.
4. Remove incubator cover A.

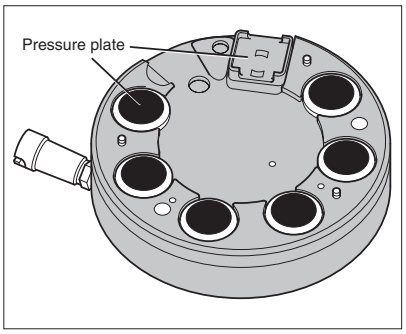
NOTE: Perform the above operations carefully to avoid damaging the connector and cable.



5. Remove incubator B.
   - Unscrew the 3 thumbscrews on incubator B and remove the incubator.



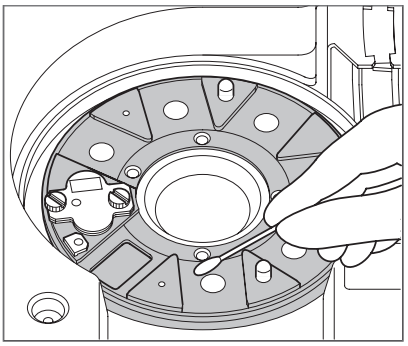
6. Clean the pressure plates.
   - Wipe off the 7 pressure plates on the backside of the incubator with a soft cloth, or swabs lightly moistened with ethyl or isopropyl alcohol.
   - Allow the pressure plates to dry by placing the incubator on a counter with the pressure plate surface facing up.



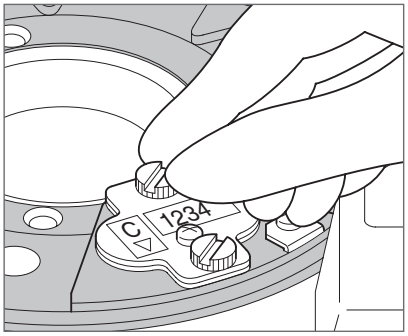
IMPORTANT

Do not touch the surface of the pressure plates with bare hands. Test results may be adversely affected.

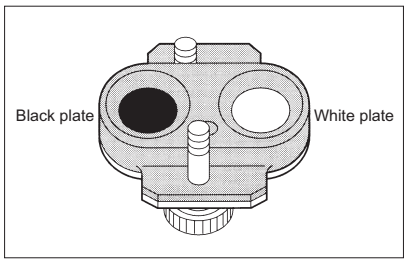
7. Clean the incubator cells.
   - Clean the incubator cells using a swab moistened with ethyl or isopropyl alcohol and allow the cells to dry.



8. Remove reference plate C.
   - Loosen the 2 thumbscrews on the black and white reference plate C to remove.



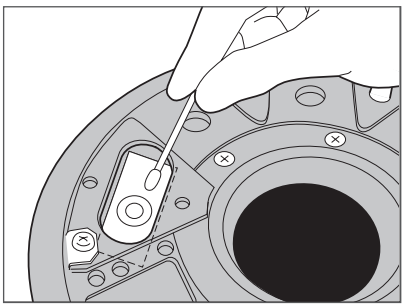
9. Clean reference plate C.
   - Turn over reference plate C and clean the black plate and the white plate with a dry cotton swab or using a swab moistened with ethyl or isopropyl alcohol and then dry with a new cotton swab.



IMPORTANT

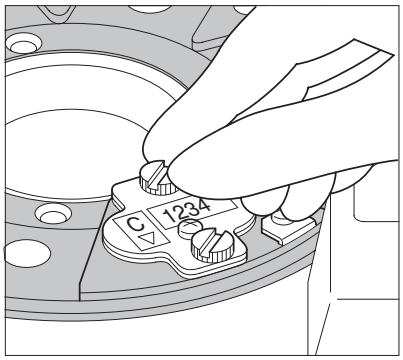
Do not touch the surface of the black plate and the white plate with bare hands.

10. Clean the photometer head.
    - Turn the incubator rotor by hand slightly to move the elliptically shaped hole for reference plate C to expose the photometer head.
    - Clean the glass surface of the photometer head with a dry cotton swab or using a swab moistened with ethyl or isopropyl alcohol and then dry with a new cotton swab.



Reassembling procedures

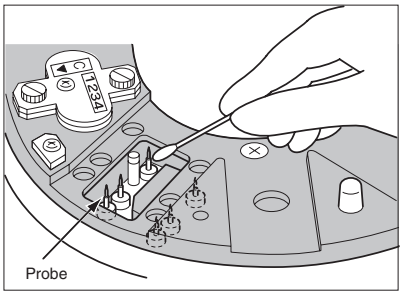
11. Remount reference plate C by screwing in the 2 thumbscrews finger tight. Be careful to set the plate horizontally; it is vital that there is no space between the plate and the incubator rotor.



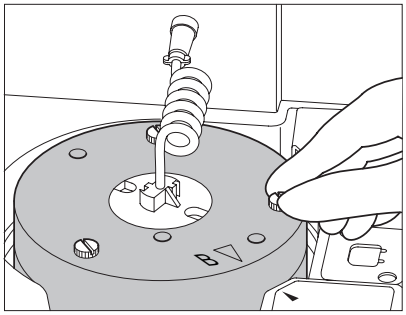
IMPORTANT

Tighten the 2 thumbscrews finger tight. Otherwise, test results may be adversely affected.

12. Clean the probes in the ISE unit.
    - Make sure there is no dust on the 6 probes.
    - Check the probes by turning the incubator rotor by hand ¾ of a turn, and moving the square hole of the ISE test cell to expose the probes.
    - Use a dry cotton swab to remove dust.
      NOTE: Do not use solvents, such as alcohol.



13. Reset incubator B.
    - Align the mark on incubator B with the mark on the analyzer and screw in the 3 thumbscrews finger tight.



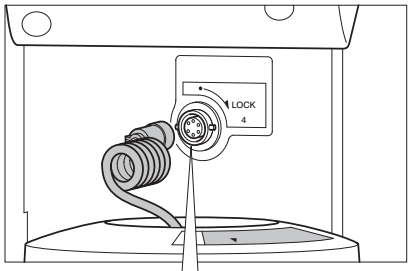
IMPORTANT

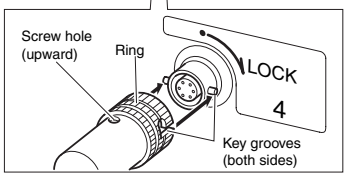
Be careful to align the ▼ mark on reference plate C with the ▲ mark on the analyzer. Otherwise, the surface of the pressure plates may be damaged.

IMPORTANT

Tighten the 3 thumbscrews finger tight. Otherwise, test results may be adversely affected.

14. Reset incubator cover A and plug in the incubator cable.
    - Pass the cable of incubator B through the hole in the center of incubator cover A. Align ▼ on the incubator cover with the ▲ mark on the analyzer.
    - Plug the connector of the incubator cable to the analyzer and lock it by turning it clockwise.





IMPORTANT

Be sure to set incubator cover A in place. Use without the cover may have adverse effects on test results.

NOTE: To avoid stressing the cable, ensure that the incubator cable is not twisted. If the cable is twisted more than one turn, cable damage may occur.

NOTE: Align the screw hole of the connector facing upward to insert. The key grooves of the ring must be on either side. Lock the connector by turning clockwise.

Cleaning the Slide Reader and the Spotting Part

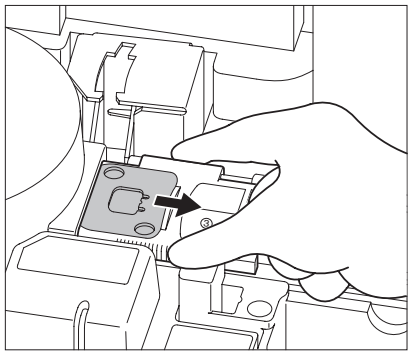
When the slide reader is dirty, frequent reading errors may occur. When the spotting part is dirty, slide transfer errors may occur. Perform cleaning procedures to avoid these errors.

IMPORTANT

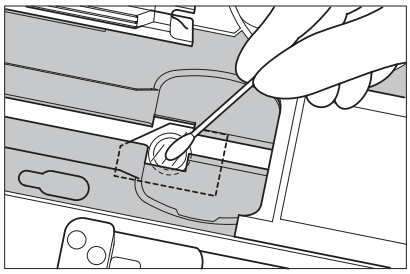
If the analyzer is used without cleaning the slide reader and the spotting part, test results may be adversely affected.

Cleaning procedures

15. Open the sampler cover.
16. Remove the slide cartridge and the sample rack.
17. Open the spotting part cover.
    - Slide spotting part cover 3 on the hinge to the right and lift open.



18. Clean slide transfer bar with a cotton swab or foam applicator moistened with water or ethyl or isopropyl alcohol.
19. Manually move slide transfer bar all the way to the right. The slide transfer bar will not need to be reset. The analyzer will reset slide transfer bar when powered back on.
20. Clean the slide reader. Clean the glass window of the slider reader with a cotton swab or foam applicator moistened with water or ethyl or isopropyl alcohol. Immediately dry the window with a clean, dry cotton swab or foam applicator. Use a flashlight or another light source to inspect the optics window to verify there are no streaks present.
21. Close sampler cover.
22. Turn power switch ON.
23. While analyzer is warming up, perform the leak check procedure.



Inspecting and Replacing the Sampler O-ring

The sampler nozzle o-rings wear with use. Periodic inspection is necessary.

IMPORTANT

If the analyzer is used without inspecting and replacing (if needed) the sampler o-ring, spotting volume may be inaccurate and test results may be adversely affected.

Inspection procedures

1. Touch **MODE** ▶ **0** ▶ **ENTER**, arrow down to administrator mode, touch **ENTER.**
2. Input password 4000, touch **ENTER.**
3. Touch **MODE** ▶ **42** ▶ **ENTER**.
4. Leak check for the sample tip.
    - Select [Sample TIP], touch **ENTER**.
    - Put the sampler leak check tool into hole A on the sample rack.
    - Close the sampler cover and touch **START.** The leak check starts, and the result will be printed out.
    - If OK is seen on the bottom of the printout, the o-ring is ok. If NG is reported, call Heska's Technical Support Services.
    - When test is complete, open the sampler cover and remove the leak check tool from the nozzle by hand.

5. Leak check for the dilution tip.
   - Select [Dil TIP], touch **ENTER**.
   - Put the sampler leak check tool into hole B on the sample rack.
   - Close the sampler cover and touch **START**. The leak check starts, and the result will be printed out.
   - If OK is seen on the bottom of the printout the o-ring is ok. If NG is reported call Heska's Technical Support Services.
   - When test is complete, open the sampler cover and remove the leak check tool from the nozzle by hand.
6. Touch **STOP** to quit mode.
7. Touch **MODE** ▶ **0** ▶ **ENTER**. Touch ▲ to locate user mode, touch **ENTER**.

Reference Plate Check

1. Once analyzer is warmed up, perform reference plate check.
2. Touch **MODE** ▶ **52** ▶ **ENTER.**
3. Reference plate level check, touch **ENTER**.
   Make sure that printed level is 1. When the level is 2 or 3, clean the reference plate.

NOTE: xx means a given percentage.

Level	Printout
1	(xx %) OK
2	(xx %) Clean reference plate.
3	(xx %) NG Clean reference plate. (Adverse effects on test results may occur.)

IMPORTANT

Level 3 will have adverse effects on test results.

It is recommended to run a chemistry control upon completion of quarterly maintenance.