

DRI-CHEM 7000 Veterinary Chemistry Analyzer

DRI-CHEM 7000 Periodic Maintenance

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

In order to keep the DRI-CHEM® 7000 Analyzer performance at its best, periodic user maintenance and specific Heska service maintenance must be followed.



If the periodic maintenance in this manual is not followed, the analyzer's performance and specifications may degrade, and adverse effects on test results may occur.



Be sure to reassemble the parts removed for maintenance and tighten thumbscrew.



Refer to each section for information about usable solvents for cleaning. For questions or further information, please contact Heska's Technical Support Services for assistance at 800.464.3752, option 3.



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

The following table lists the periodic user maintenance.

Check Points	Cleaning Interval
Air filter	Once per month.
Incubator	Once every 3 months or if inaccurate test results occur.
ISE unit	Once every 3 months or if inaccurate test results occur.
Spotting part	Once every 3 months along with the incubator and ISE unit or if slide transfer error or contamination with sample occurs.
Slide reader	Once every 3 months or if frequent reading errors occur.
Recording paper	Replace the recording paper when red lines appear.
Light source lamp	Replace when a lamp replacement error occurs or the lamp's cumulative illumination time exceeds 1,000 hours.
Reference fluid cap	Clean as needed; replace if cracked.

Monthy Maintenance

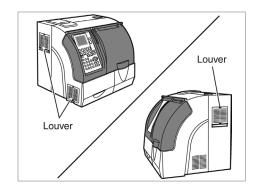
Cleaning the Air Filter

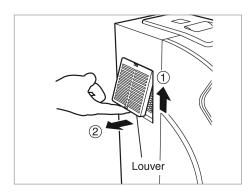
The air filters should be checked and cleaned once a month.

NOTE: Perform cleaning for all (3) filters.

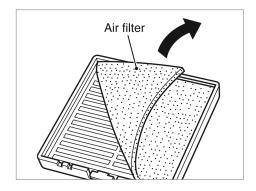
Cleaning procedures

- 1. Turn off the analyzer power switch.
- 2. Remove all three louvers and pull out the air filter located inside of the louver. Lift the louver upward ▲ and then pull frontward ▼ to remove.



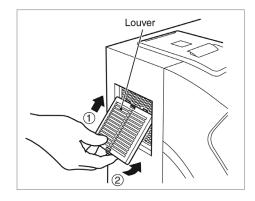


3. Remove dust adhering to the filter with a vacuum cleaner or running water. **NOTE:** If washing the filter with running water, make sure the filter is dried well before placing back into the analyzer.



- 4. Insert the filter into the louver and put the louver back on the analyzer. Lift up the louver ▲ and then push it toward the analyzer ▼.
- 1 IMPORTANT

If the analyzer is used without the filter, adverse effects on test results may occur.

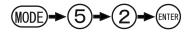


Quarterly Maintenance

Cleaning the Incubator, Spotting Part and ISE Unit

Test results are affected by dust or sample spills inside of the incubator and ISE unit. These parts should be checked and cleaned at least once every three months. When a slide transfer error or a tip ejecting error occurs, clean the spotting part.

- 1. Entering the cleaning mode.
 - a. Enter Mode 52.



NOTE: Prior to pressing **STOP**, complete Steps 1–4 in this section.

- 2. Cleaning the incubator.
- a. Open the sampler cover and the keypad. Move the sampler unit to the right. **NOTE:** Be careful not to open the reference fluid cap.

Unplug the connector of the incubator cable by turning it counterclockwise.

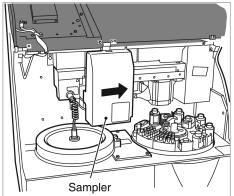


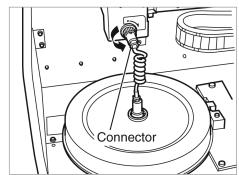
c. Lift the incubator cover to remove.

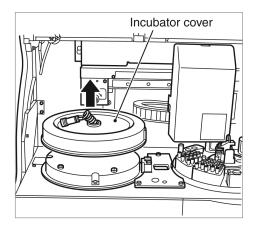
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M52 Incubator cleaning

- Remove incubator
 & clean incubator
- After cleaning, set incubator
- 3) Press STOP

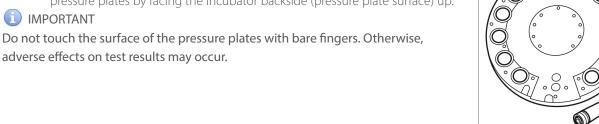


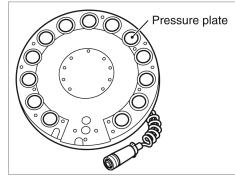




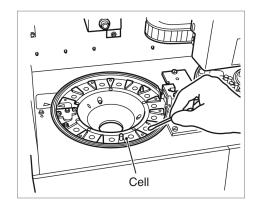
- d. Unscrew the 5 screws on the upper incubator and remove the incubator.
- e. Wipe off the 13 pressure plates on the backside of the incubator with a soft cloth or cotton swab moistened with ethyl or isopropyl alcohol. Dry the pressure plates by facing the incubator backside (pressure plate surface) up.

adverse effects on test results may occur.

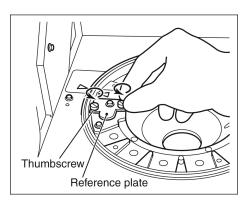




Clean the incubator cells in the same way.

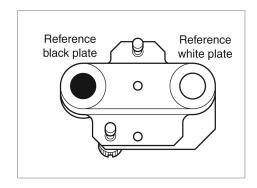


Unscrew the 2 screws fastening the reference plate and remove the plate from the body.

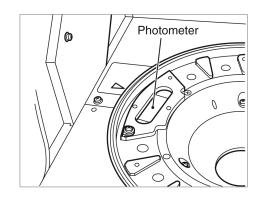


- h. Turn over the reference plate and clean the white plate and the black plate with a dry cotton swab or using a swab moistened with ethyl or isopropyl alcohol and then dry with a new cotton swab.
- 1 IMPORTANT

Do not touch the surface of the black and white plates with bare fingers. Otherwise, adverse effects on test results may occur.



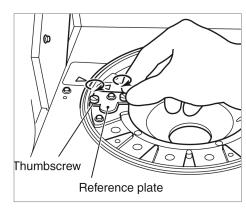
 Clean the photometer head with a dry cotton swab or using a swab moistened with ethyl or isopropyl alcohol and then dry with a new cotton swab.



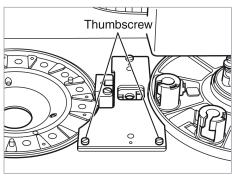
j. Remount the reference plate. Align the arrow mark on the reference plate with the arrow mark on the analyzer. Screw the 2 thumbscrews evenly.



Tighten the two thumbscrews finger tight. Otherwise, adverse effects on test results may occur.

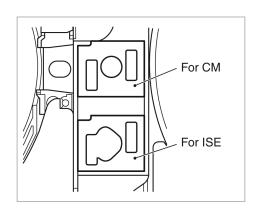


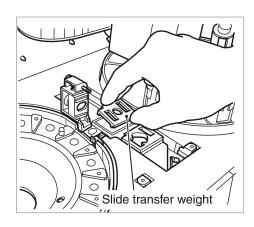
- 3. Cleaning the spotting part.
 - a. Unscrew the 2 thumbscrews and pull the spotting part cover frontward to remove.



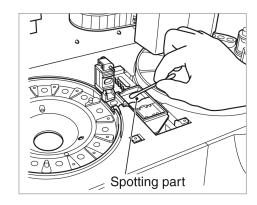
b. Remove the 2 slide transfer weights of the spotting part.

NOTE: There are 2 types of the slide transfer weight (for CM/ISE). Make sure to set properly when reassembling.





c. Wipe off the spotting part with soft cloth or cotton swab moistened with water or using a swab moistened with ethyl or isopropyl alcohol and then dry with a new cotton swab.



- 4. Cleaning the slide transfer bar (feed, eject).
 - a. Press Sample A.

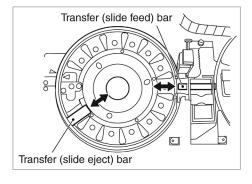
NOTE: By pressing Sample **A**, the incubator and the slide transfer bar moves.

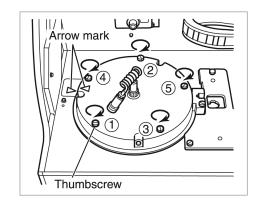
- b. Wipe off the transfer bar with a soft cloth or cotton swab moistened with water or using a swab moistened with ethyl or isopropyl alcohol and then dry with a new cotton swab.
- c. After cleaning, press Sample B.

NOTE: By pressing Sample **B**, the incubator and the slide transfer bar moves to the home position.

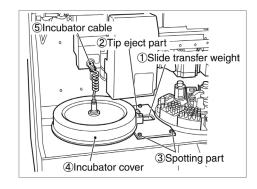


a. Reassemble the upper incubator.
 Align the arrow mark on the upper incubator with the arrow mark on the analyzer. Screw the 5 thumbscrews evenly.





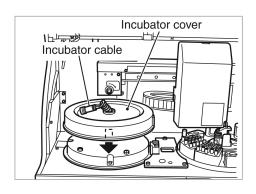
b. Set the incubator cover.



- c. Plug the connector of the incubator cable to the analyzer and lock it by turning it clockwise.
 - (Insert the connector to the socket by aligning the guide keys.)
- d. Close the left cover (keyboard).



Tighten the five thumbscrews finger tight. Otherwise, adverse effects on test results may occur.



IMPORTANT

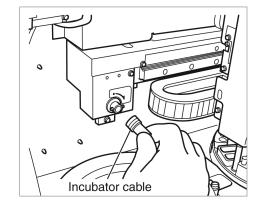
Be sure to set incubator cover. If the analyzer is used without setting the cover, adverse effects on test results may occur.

NOTE: To avoid stressing the cable, ensure that the incubator cable is not twisted. Otherwise, the cable will be damaged in a short time.

6. Press **STOP** as indicated on LCD screen.

NOTE: The sample carousel moves and the analyzer performs initial settings. After completing the cleaning mode, the analyzer performs reference plate quality check automatically and prints out the result.

NOTE: If the quality level shows level 2 or 3, perform mode 52 again and clean the reference plate and photometer head.



- 7. Cleaning the ISE probe unit.
 - a. Press on the black plastic piece to make probes accessible.
 - b. Gently wipe the tips of the 6 ISE probes with a dry cotton swab.

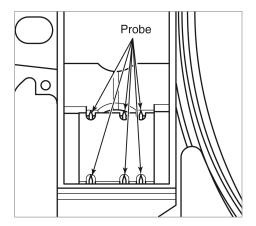
NOTE: Do not use solvents, such as ethyl alcohol or isopropyl alcohol.



CAUTION

ISE probes are needle-shaped parts. Do not directly touch with hands. Be careful not to bend the probes.

- c. Set the slide transfer weights.
- d. Set the spotting part cover and screw the thumbscrews.

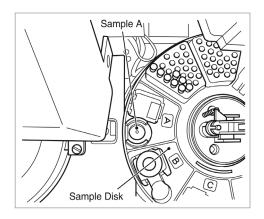


Cleaning the Slide Reader

When the slide detecting part becomes dirty, slide-detecting errors may occur.

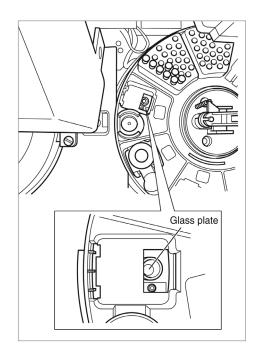
Cleaning procedures

- 1. Turn off the analyzer power switch.
- 2. Remove the slide cartridge of Sample A.
- 3. Turn the sample carousel by hand, to position Sample A at the aspiration position. This is at the 10 o'clock position.



4. A light source should be used to visualize this plate.

Wipe off the glass plate of the slide reader lens with a cotton swab moistened with isopropyl alcohol through the opening of the slide cartridge setting position of Sample A. Immediately dry the lens with a dry cotton swab until no streaks are present.

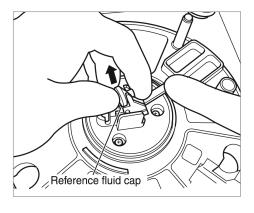


Cleaning and Replacing the Reference Fluid Cap

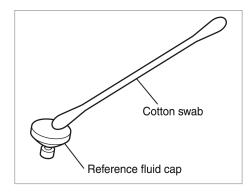
Clean the reference fluid cap each time reference fluid is replaced when debris is present by wiping with distilled water. Replace the reference fluid cap, if it becomes cracked.

Cleaning and replacement procedure

- 1. Before cleaning, remove a reference fluid tube from the holder and discard it.
- 2. Remove the reference fluid cap as shown.



3. Wipe off the reference fluid cap using a cotton swab or soft cloth moistened with distilled water. Dry it after cleaning.



4. Set the reference fluid cap properly.

NOTE: Do not touch the surface of the reference fluid cap (reference fluid side).

