



RO Water Check

Purpose

The purpose of the RO water check is to consistently monitor the quality of the water that is being produced by the RO machine. By monitoring the quality of the water that is being produced, we can catch problems before they occur and keep the RO machine running and functioning properly.

Application

A certified Manager, Assistant Manager, or Shift lead is required to complete an RO water check every Tuesday and Friday. If for any reason the wash is not open on one of those days, the RO water check must be completed the next day that the wash is open.

Definitions

RO- Reverse Osmosis, is the process by which pressure forces water through a semipermeable membrane, creating a stream of treated water, called "permeate," and a stream of rejected water called "concentrate" or "brine." These systems can potentially remove water contaminants such as lead, volatile organic compounds (VOCs), PFAS, arsenic, bacteria, and viruses. This is the water used in the final rinse of the wash to create a spot-free finish.

Free Chlorine- Free chlorine is the amount of chlorine, measured in parts per million (ppm), that is available to eliminate harmful microbes and neutralize contaminants. It is not yet bound to microbes or chemicals in the water. Monitoring free chlorine is a critical part of pool maintenance to avoid harmful contaminant levels.

Total Chlorine- Total chlorine develops when free chlorine binds to contaminants during sanitization. The presence of combined chlorine indicates that contaminants are present and that they are actively being neutralized.

Reagent- a substance or mixture for use in chemical analysis or other reactions.

Titrant- a solution of known concentration that is added (titrated) to another solution to determine the concentration of a second chemical species.

Supplies Needed

1. Nitrile Gloves

2. Safety Glasses
3. Hach-free and total chlorine test kits.
4. Hach hardness test kit.

Procedure steps

Open the RO water Check form on the operations portal

Free and Total Chlorine procedure:

1. Fill both test tubes to the first line with water from the RO machine. (Next to the filter on the RO machine, there is a valve to get sample water)
2. After collecting the sample water, open a free chlorine reagent packet then dump the reagent powder into one of the test tubes. Swirl the test tube to mix the reagent with the water.
3. Place the test tube into the color comparator box.
4. Spin the color wheel on the color comparator box to match the shade of color to the water in the test tube.
5. Record the corresponding number on the RO Water Check form on the operations portal.
6. Open a total chlorine reagent packet then dump the reagent powder into one of the test tubes. Swirl the test tube to mix the reagent with the water.
7. Place the test tube into the color comparator box.
8. Spin the color wheel on the color comparator box to match the shade of color to the water in the test tube.
9. Record the corresponding number on the RO Water Check form on the operations portal.

Hardness Test procedures

1. Fill the test tube to the top with sample water.
2. Pour the sample water into the mixing bottle.
3. Add one level scoop of hardness reagent.
4. Add hardness titrant solution dropwise while swirling the mixing bottle. When the sample changes color from pink to blue, record the number of drops added.
5. Number of drops = total sample hardness.

Pump and Membrane Pressure

1. To find the membrane and pump pressures, you need to locate your RO machine.
2. On the face of the RO machine, there are membrane and pump pressure gauges.

3. Record the PSI of the pump and membrane pressures on the RO water check form on the operations portal. (The RO machine must be running and producing water to get the correct pressure readings.)

Once all the information on the RO water check form has been filled out, submit the form.

Resources

Chlorine Test Manual

https://cdn.bfldr.com/7FYZVWYB/at/qbbv43k7zt93573mw495kkk/DOC3269800003_Chlorine_Free_or_Total_CN70_CN70F_CN70T.pdf

Hardness Test Manual

https://cdn.bfldr.com/7FYZVWYB/at/mqwzqv2pcc8rsp2x78m9q5j/Hardness_Total_Test_Kit_Manual_Model_5B_Drop_Count_Titration_Kit_145300.pdf