

INSTRUCTIONS FOR USE

CLAROX® PL and PL/NR Filter Cartridges



Installation of CLAROX® PL and PL/NR filter cartridges

Before use, check the cartridge conditions including gaskets. Defective cartridges should not be used. Open the plastic bag at the bottom end only. Wet the O-rings and install the cartridge inside the housing. Remove the plastic bags completely.



NOTE

Preferably, the cartridges are to be rinsed, sterilized, regenerated by pre-filtered clean water.

Rinsing the filter cartridges

- Fill the system with water, slightly open all outlet valves
- Rinse at 25 L/min/30" for 5 minutes with a process-compatible solution (e. g. WFI) between 20 – 50 °C
- Rinse in filtration direction (forward flow), vent the housing and apply a back pressure of 1.0 bar (14.5 psi) by closing the outlet valve slightly

Sterilization

- Fill the system with water, slightly open all outlet valves and increase the temperature gradually
- Heat up the filter until the required sterilization temperature of 80 °C is reached at all outlet valves
- Maintain the temperature for 20 minutes
- Turn off the hot water supply
- Gradually cool down the filter to room temperature with cold sterile water while re-circulating it into the system

To save energy, it is recommended in step e) and f) to heat up during recirculation.

Sterilization by steam

- Use clean, dry steam at 105 – 121 °C during 30 min.
- To prevent condensate, keep approx. 0.3 bar (4.4 psi) and slightly open all venting and drain valves. The steam bleed allows to sterilize them along the whole sterilization process.
- Gradually cool down the filter to room temperature with clean sterile filtered air



NOTE

The cartridges must be wetted before steam sterilization! Sterilization is only fully completed when all parts in contact with the product are sterilized. For alternative sterilisation methods, please contact your FILTROX representative.

Filtration

- Slowly start filling the filter by opening the inlet valve and all venting valves (ensure complete venting). The outlet valve should be closed
- Once properly vented, open the outlet valve, close the venting valves and start the filtration (if required, the very initial filtered volume may be separated from filtrate to avoid any dilution with rinsing water)
- Adjust the flow rate for the specific product
- Avoid any abrupt changes in filtration flow, pressure shocks and gas bubbles



NOTE

Observe the maximum recommended flow rate, operating pressure and temperatures. Further information can be found in the corresponding technical data sheet.

Regeneration

Preferably, the cartridges are to be regenerated by pre-filtered clean water. Regeneration is carried out in forward or back flow.

- Fill the filter with cold water
- Rinse at approx. 15 L/min/30" for 10 – 15 min. with cold water (if differential pressure allows it)
- Rinse at approx. 15 L/min/30" for 10 – 15 min. with 40 – 50 °C warm water (if differential pressure allows it)
- If a sterilization is required, follow the process from step q)
- Gradually cool down the filter to room temperature with cold sterile water while recirculating it into the system



NOTE

Do not exceed the max. permissible differential pressure anytime.

Chemical regeneration

If the differential pressure results are excessive after regeneration, for cartridges used in beer and wine filtration enhance a chemical regeneration in the forward or back flow.

- Rinse at approx. 15 L/min/30" for 10 min. with 40 – 50 °C water (if differential pressure allows it)
- Circulate an alkaline detergent (0.5 to 1 %) at 50 – 60 °C for 10 min. Discard the first 5 to 10 L/30" of the very dirty cleaning solution to your wastewater treatment plant (neutralization)
- If preferred to clean with oxidizing agents or similar, dilute approx. 200 ppm in a 0.3 % new alkaline solution at room temperature <30 °C and recirculate for 10 min. Discard the first 5 to 10 L/30" of the very dirty cleaning solution to your wastewater treatment plant (neutralization)
- Allow the cartridges to soak for 10 min. without recirculating
- Recirculate the detergent for another 10 min.
- The differential pressure should drop accordingly to the cleaning progress. By reaching 0.5 bar (7.3 psi) at 25 L/min/30" water flow, the regeneration is to be considered as successful
- Discard the detergent to your wastewater treatment plant (neutralization)
- Rinse the system with a 0.5 % citric acid solution to neutralize alkaline residues
- Rinse at 25 L/min/30" for 5 min. with water between 20 – 50 °C to complete all chemicals elimination
- If a sterilization is required, follow the process from step B)



NOTE

For cartridges used in water filtration, use diluted acid detergent instead of alkali. Use detergents allowed for cartridges at the given concentration only!

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Replacement of the cartridges

The filter cartridges must be replaced as soon as the maximum permissible differential pressure has been reached. Please refer to the pressure limits in the corresponding technical data sheet.

Note on disposal

The respective official regulations for disposal must be followed depending on the filtered product. Uncontaminated cartridges can be disposed of as non-hazardous waste. Please refer to your local environmental authority for more information.

Shelf life and storage

The filter cartridges should be stored in their original packaging in a dry, odor-free and well-ventilated area. Temperature fluctuations can lead to condensation formation and should therefore be avoided. Please refer to the corresponding technical data sheet and CoQ for the expiration date.

Wet storage (in the housing) < 1 week

After regeneration and sterilization, close all valves and hold the housing under a pressure of 0.5 – 1.0 bar (7.3 – 14.5 psi) until the next filtration. If the installation will not be used within 48h, a sterilization shall be made before filtration.

Wet storage (in the housing) > 1 week

- K) Fill the housing with 0.2 % SO_2 solution or, 0.2 % peracetic acid or any similar chemical, approved for cartridges treatment and food industry
- L) Recirculate at approx. 15 L/min/30" for 5 min.
- M) Stop the recirculation, close all valves and hold the housing under a pressure of 0.5 – 1.0 bar (7.3 – 14.5 psi)
- N) Before next filtration discard the detergent to your wastewater treatment plant (neutralization)
- O) Rinse at 25 L/min/30" for at least 10 min. with water at 20 – 50 °C to ensure the chemicals elimination
- P) Sterilize the cartridge accordingly to sterilization step L)



NOTE

Use chemicals allowed for cartridges only!
Replace the solution every two weeks or follow the chemical's instructions used.

Technical Support

Contact your local FILTROX representative or our experts at applications@filtrox.com. We will be happy to help you to find the best possible filtration solution for your product.

Remarks

All information is based on current knowledge and does not claim to be complete. No liabilities can be derived from this information. FILTROX reserves the right to make changes in the course of technical improvement.