



GUIDE



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Hygienic reprocessing of ultrapure water systems in four steps (EUV)

(spray cleaning)

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The following materials are required:

- New filters (active carbon, absorption filter etc.)
- New DI water cartridges
- **Olschner Optimal 14.0.**
- **Olschner Optimal Neutralizer Z40**
- **Olschner Optimal D 35**
- **Possibly IPA or ethanol – see step 4**
- Steam cleaner, brushes for tank cleaning

Please check:

- The system must not contain any corrosive parts such as brass (including chrome-plated brass) etc.
- The plant should generally not contain any translucent tanks or pipes.

First step – removal of organic residues

- Remove or bypass all filters and replacement cartridges on the deionised water system.
- Fill system with soft or decalcified water and heat to a minimum of 60°C
- Add approx. 2 – 3 % **Olschner Optimal 14.0** to the system and flush through at 60°C in circuit, including all branches and pipes
- Neutralise rinsing water (**with Olschner Optimal Z 40** to pH value 7 – 9) and drain. Then rinse with DI-water.
- This takes approximately 3 hours. Repeat the process twice if necessary, or leave the system running overnight.

Step two – Removal of salt and limescale residues

- Manually clean tanks and chambers of residues
- Flush the system with acid at 20 – 30°C using 1 – 2% **Olschner Optimal Z 40**. Please also pay attention to all branches and dead pipes – this is important to prevent recontamination
- Drain tanks and neutralise the drained medium in a separate tank if necessary (pH 6-7). Then rinse thoroughly with DI-water.
- Approximately 3 hours required.



Step three – Hygienic reprocessing of the system (only if necessary)

- Refill system with tap water and heat to 20 – 30°C.
- Add 1 – 2% **Olschner Optimal D 35** to the system and flush it through the circuit, including all branches and pipes, for approx. 3 hours.
- Drain all chambers. Then flush with tap water.

Step four - refill

- Replace all filters and replacement cartridges and reinsert them
- Fill the system with deionised
- Check and monitor water quality – conductivity, pH-value

When the system is empty

- Do NOT reinsert the filter and replacement cartridges
- After the final rinse cycle with DI-water from step three, rinse the system by hand with isopropanol or ethanol.
Pay particular attention to branches and dead pipes. This step is important to ensure that the system can dry properly – if DI-water remains in the system, there is a risk of contamination during storage
- As soon as the system is put back into operation after being empty, proceed to step 4 - refill

**The description of the above process is a recommendation for cleaning the system.
Bernd Olschner GmbH does not guarantee the cleaning process.**