

# AlphaDisc™ Cleaning advice

Netafim



## DEPOSITS IN FILTER DISCS

During the filtration process, deposits can form on discs, leading to blockages in the grooves that cannot be removed by backflushing. The formation of these deposits depends on the quality of the water being filtered and environmental factors such as temperature, pH, light, and operating time.

Common water based deposits include:


- ✓ Biological or organic deposits (usually slimy or oily, beige, brown, or green in color)
- ✓ Iron oxide (rust) or other metal oxides (brown or orange deposits)
- ✓ Manganese oxides (black deposits)
- ✓ Carbonates (white or gray deposits)
- ✓ Combinations of the above

## NEEDS AND EQUIPMENT

In addition to a well-ventilated workspace, the following supplies and safety equipment are important:

- ✓ Three large plastic, labeled wide-neck vessels with screw caps (40 liters) and a long stirring rod. All resistant to chemicals, preferably made of HDPE (polyethylene) or polypropylene.
- ✓ Tie-wrap(s) (80-100 cm) to secure the discs.
- ✓ Two sets of spare discs.
- ✓ AlphaDisc Multi-tool for removing the housing cover and discs from the spine (disc holder).
- ✓ Safety equipment according to regulations, including safety glasses, gloves, and appropriate protective clothing.





## WARNING

Never mix different substances together! The combination of an acid and (sodium) hypochlorite results in the formation of highly aggressive chlorine gas, which is very harmful to humans, animals, and plants. Carefully read and follow the safety instructions recommended by manufacturers and authorities.

Take ALL safety precautions and wear protective clothing when working with acids to prevent contact with skin, eyes, and mouth.

Acid can, for example, cause burns and blindness and can also lead to gas formation. Dispose of chemicals according to the laws and local regulations!



Two disc sets



Stirring rod



Tie wraps



AlphaDisc Multi-tool

## CHEMICAL AGENTS

For cleaning the discs, we can distinguish the following deposits and also the recommended chemical agents to remove these deposits:

- ✓ **Organic and biological deposits** can be removed with hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>)
- ✓ **Deposits of iron oxide (or other metal oxides)** are dissolved by hydrochloric acid (HCl)
- ✓ **Deposits of carbonates and lime** are dissolved by hydrochloric acid (HCl)
- ✓ **Deposits of manganese compounds** can be dissolved by citric acid. (C<sub>6</sub>H<sub>8</sub>O<sub>7</sub>)

## COMPLEX DEPOSITS

In the case of complex deposits or deposits of unknown nature, a two-step procedure should be followed.

The discs are initially exposed to a cleaning solution for biological deposits. If this solution is not effective, the discs should be exposed to the hydrochloric acid solution to remove the entire deposit. **In between, the discs must be rinsed with clean water at all times!**



**Note:** Always follow the manufacturer's instructions for the respective chemical. Work in a well-ventilated environment and wear the appropriate protective clothing. Store and dispose of chemicals according to the instructions on the label.

## CLEANING PROCEDURE INSTRUCTIONS

1. Ensure you have the necessary supplies and safety equipment. It is advisable to have two sets of spare discs so that the filter remains operational during the cleaning procedure.
2. Before starting the cleaning procedure, perform a manual flushing action.
3. Shut off the water supply and relieve the pressure from the filter.
4. Open the cover of the filter housing so that the discs on the disc holder (spine) are visible.
5. Use the special disc key to open the disc holder and remove the discs from the spine.
6. Loosely secure the discs with a long, strong tie-wrap.
7. Prepare a wide-neck vessel with cleaning solution and set up a second vessel with rinse water.
8. Fully immerse the discs in the cleaning solution. Stir occasionally with a stirring rod for optimal cleaning.
9. Adhere to the prescribed contact time with the cleaning solution.
10. Carefully remove the discs from the solution, place them in the second large rinse tank, and thoroughly rinse them with clean water before returning them to the filter or placing them in another cleaning solution.
11. Finish with a manual flushing action to ensure that all deposits and chemical residues are removed, ensuring the filter functions properly again.

The cleaning solution can be reused for multiple disc sets. Label the contents of the wide-neck vessels accurately. If the effectiveness of the solution decreases, a longer exposure time may be required.

## DEPOSITS, CHEMICAL AGENTS AND CONCENTRATIONS

POLLUTION	Type of deposit	Organic and/or biological (standard)	Organic and/or biological (persistent)	Iron oxide deposits (or other metal oxides)	Carbonates or lime deposits	Manganese deposits
	Color or characteristics	Slimy, oily, beige, brown or green color	Slimy, oily, beige, brown or green color	Brown or orange color	White or grey color	Black color
CHEMICAL AGENTS	Recommended chemical commercial solution	Hydrogen peroxide (35%)	Sodium hypochlorite*	Hydrochloric acid (30%)	Hydrochloric acid (30%)	Citric acid (solid - 100%)
	Chemical formula	H <sub>2</sub> O <sub>2</sub>	NaOCl	HCl	HCl	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>
	CAS-number	7722-84-1	7681-52-9	7647-01-0	7647-01-0	77-92-9
TREATMENT	Concentration	30L water + 5L H <sub>2</sub> O <sub>2</sub> (35%)**	18L water + 12L NaOCl (12,5%)**	25L water + 5L HCl (30%)**	25L water + 6L HCl (30%)**	25L water + 2,5KG C <sub>6</sub> H <sub>8</sub> O <sub>7</sub> (100%)**
	Contact time	2 hours***	2 hours***	1 hour***	1 hour***	2 hours***

\* Note: Never mix sodium hypochlorite with acid.

\*\* For cleaning 2 disc sets simultaneously, we recommend preparing twice the amount of cleaning solution.

\*\*\* If the discs are not sufficiently cleaned, increase the contact time to a maximum of 8 hours.