Basic knowledge

Multistage water treatment

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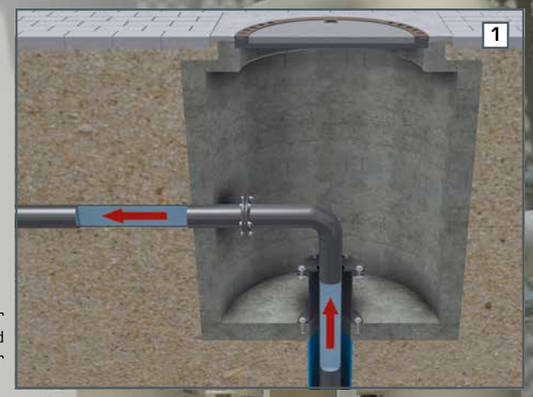
Water to be treated usually contains several substances with different properties. Consequently, a single basic process is not sufficient to remove these substances. Water treatment plants are therefore generally built in several stages.

From the point of view of environmental protection, plants for treating contaminated groundwater are a classic application example of complex, multistage water treatment.

Solids contained in the untreated raw water can cause damage or blockages in plant components (e.g. pipelines and pumps). A mechanical treatment is therefore first applied to remove the solids. If the solids only emerge during the course of the water treatment, such as precipitation and flocculation, mechanical treatment steps are also used in the later stages of water treatment.

Groundwater treatment

Contaminated groundwater is usually treated with the "pump and treat" method. Here, the groundwater is pumped downstream of the contamination zone and purified by conventional processes of water treatment. The purified groundwater is then infiltrated back into the ground upstream of the contamination zone. This creates a circuit into which the groundwater treatment plant is integrated.



Well for contaminated groundwater

Multistage groundwater treatment plant

1. wells
2. inlet of wells
3. precipitation (e.g. dissolved iron)
4. flocculation
5. lamella separator (sedimentation)
6. buffer tank
7. sand filter
8. stripping
9. collection tank for sludge
10. adsorption on activated carbon
11. adsorber for exhaust air from stripping
12. collection tank for purified groundwater
13. outlet to infiltration wells
14. infiltration wells