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Chamber filter presses and activated carbon filter

Heavy metal precipitation

For the removal of heavy metals several treatment processes are combined. The metals are first concentrated in an ion exchanger which is reactivated after its capacity is exhausted. The resulting eluate is passed to a multistage waste water treatment plant where the first step is to add the appropriate precipitants and carry out pH adjustment. These measures cause the dissolved heavy metals and sulfates to convert and precipitate.

The precipitations are turned into microflocs by adding the appropriate flocculating agents. In a downstream flocculator, these microflocs agglomerate to form macroflocs and are passed to a corrugated-plate precipitator. The sedimented sludge is concentrated in a thickener and squeezed

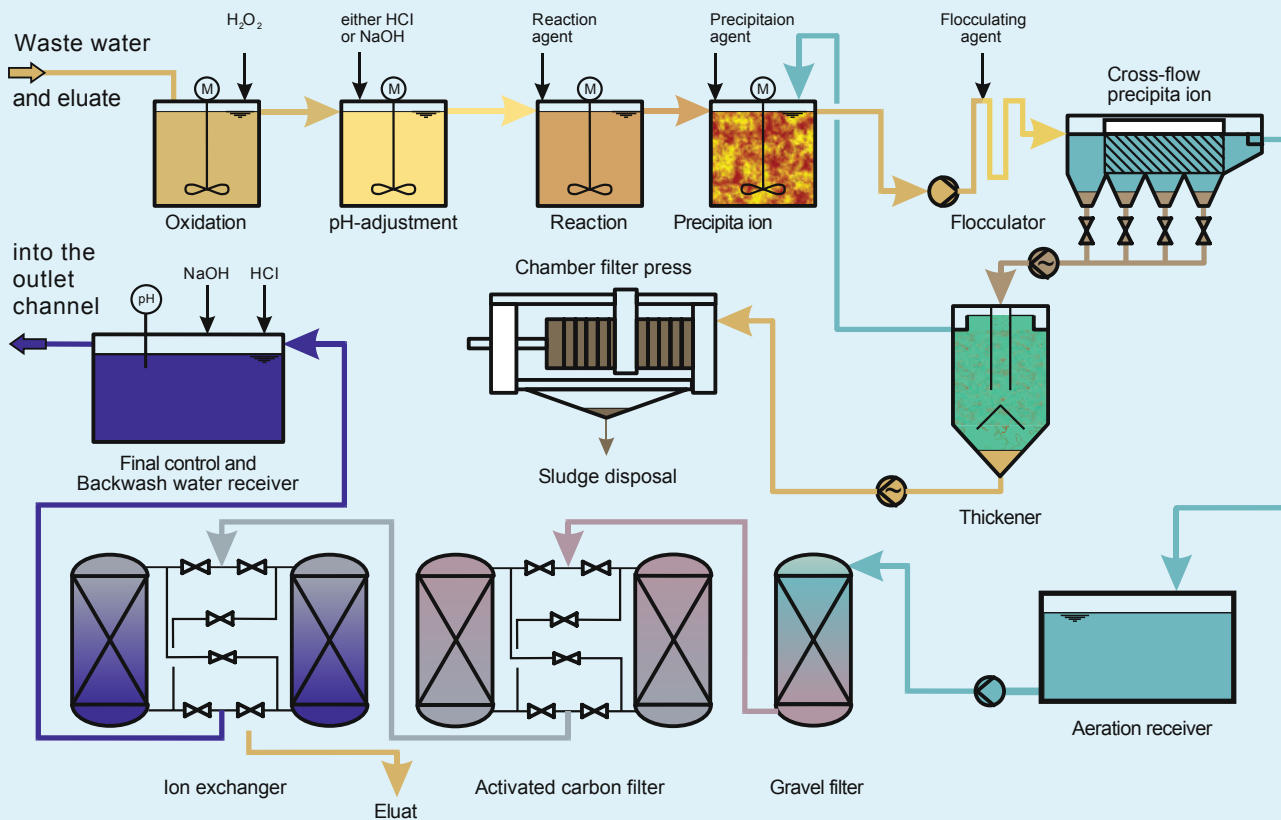
out until its residual moisture is less than 50 percent.

The clear water from the precipitator undergoes a separate after treatment. It first flows through a gravel filter which retains the fines not sedimented in the precipitator. Then, the water is passed back to the ion exchanger together with the main water flow. This system consists of two units packed with different selective ion exchange resins suitable for the elimination of heavy metals.

The ion exchanger retains metal ions from the raw water and from the eluate which have not been captured by the precipitation and flocculation. At the end of the treatment process, the water flows through a pH control.

Fields of application

- chromium III and IV, nickel, zinc, copper, lead, cadmium, arsenic, mercury and other heavy metals
- cyanides, sulfates



Plant for the elimination of heavy metals and cyanides from water

Ideas for a clean environment

Groundwater and Lake Decontamination • Drinking Water and Process Water Treatment • Air Purification
Water Worldwide • Treatment of Mineral Waste



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