

pH meter in water treatment

Flocculation is a frequently used technique to clean water, regardless of whether swimming pool water, industrial water or wastewater is concerned.

Flocculation means that you make use of the fact that an undesired component of the water becomes insoluble under certain conditions (pH value, REDOX potential, temperature and suitable flocking agent) and “flocculates” as a suspended, colloidal solid in the aqueous phase. Now this substance can either sediment or be separated from the water by way of filtration, depending on the type of flocculation.



This technical procedure often involves chemical reactions of complex formation. A flocking agent or flocculation aid is added to the water to be purified. The flocking agent can now

bind the dissolved component of the water and, in the next step, remove it from the aqueous phase.

There are organic flocculating agents (polyelectrolytes) and inorganic ones (often hydroxide-forming components).

To ensure that a flocculating agent can “work”, the right pH range must be set in advance. To do so, the pH value can be determined by means of online measurement during batch operation and set via pH control.

The pH values of most inorganic flocculating agents are acidic.

Ferric (III) chlorides work very well in the strongly acidic range $< \text{pH } 1$. On the other hand, sodium aluminates require strongly alkaline conditions $> \text{pH } 11$. After successful filtration, the undesired component of the water is eliminated to an extent which allows the water to be finally sedimented.