

SO₂ water tower

The SO₂ water column is an optional, downstream piece of equipment in the Cellchem sulphur burning process. SO₂ water is formed by the absorption of SO₂ gas into chilled water in a packed column. Industrially, SO₂ water solutions are used in several applications such as sulphite liquor pulping, pH control and as an alternative SO₂ storage method.

SO₂ water

SO₂ is absorbed in water to produce sulphurous acid in solution, also called SO₂ water. Industrially, SO₂-water solutions have several important applications: preservative and antimicrobial agent in the food and beverage industry, bleaching agent in the sulphite pulping process, pH control in the kraft pulping process, dichlorination and oxygen scavenging in water treatment, to mention a few.

How it works

The SO₂ water absorption tower is designed to efficiently dissolve sulphur dioxide gas into water, forming sulphurous acid. As the gas rises through the tower, it comes into contact with water, which is distributed over packing material to increase the surface area for absorption.

The effectiveness of the process depends on factors such as gas concentration and temperature of water. In some cases, water is recirculated to improve absorption, while mist eliminators are installed at the top of the column to prevent liquid carryover. By carefully controlling these parameters, the column ensures efficient SO₂ capture and conversion into a stable liquid solution for further use or treatment. The resulting solution is generally on the order of 5-15 g/L SO₂

The benefits

- Concentrations of 5–15 g/L SO₂
- End-to-End Process Expertise

NORAM End-to-End Process Expertise

At NORAM we are experienced with designing complete systems from sulphur to end product. Our expertise enables us to optimize the process design and mechanical configurations of the process to minimize the risk of corrosion and meet the requirements by the client in an efficient way.



Figure 1 SO₂ absorption towers

