



Ion Exchange for Cobalt removal

The Netherlands, 144 m³/d

Aim of the Project

The Ion Exchange system is designed to treat wastewater containing cobalt. Its primary objective is to reduce the cobalt concentration to below 0.05 ppm to meet discharge regulations and facilitate cobalt recovery.

The system is intended to treat 6 m³/h of water and must be compact enough to fit in the limited space available at the client's site. Lenntech has designed and constructed a system featuring two Strong Acid Cation (SAC) resin beds arranged in series. The design meets the client's requirements for automation, as well as electrical and mechanical specifications.

The complete system includes several pump skids, storage tanks with capacities up to 35 m³, Ion Exchange columns, and a sulfuric acid dosing cabinet for regenerating the IX unit.

The regeneration process for the IX columns follows the hold-down principle.

Scope of Work

- ▶ Engineering, manufacturing and assembly
- ▶ Cobalt removal system
- ▶ Outdoor requirements suitable for process temperatures up to 57° C.
- ▶ Hold-down principle for the regeneration of the Ion Exchange columns.
- ▶ Installation supervision & commissioning
- ▶ Remote data monitoring and system

▶ FEED WATER QUALITY

Cobalt: 8.5 ppm
pH: 2.5

▶ PRODUCT WATER QUALITY

Cobalt < 0.05 ppm

Key accomplishments

REDUCES
COBALT
CONTENT

FINAL COBALT
CONTENT
<0.05
ppm

COBALT REMOVAL
EFFICIENCY
99%

TEMP. UP TO
57°C