

RotReg NE/FeCl₃

(Rotation Electrode Regeneration)



Loop regeneration for the etching of nonferrous metals with ferric chloride



How does it work?

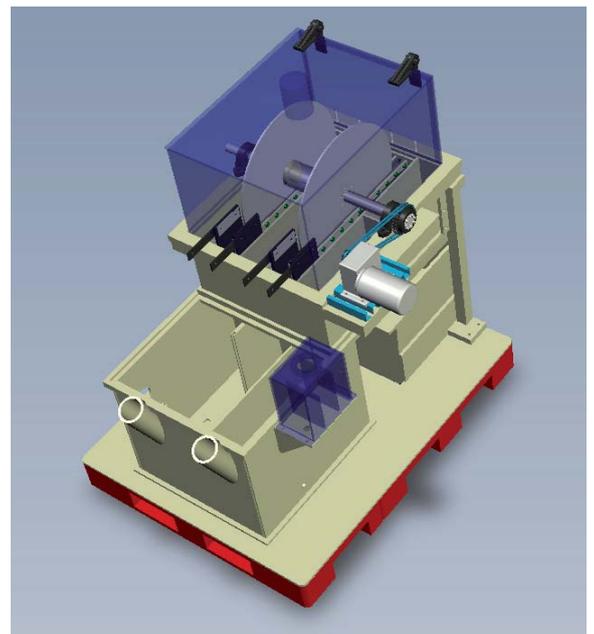
During the etching of nonferrous metals, e.g. copper alloys, the copper and other metals become enriched in the etching solution and the etching medium becomes exhausted.

Through regeneration, the nonferrous metals are continuously removed and the exhausted etching medium is simultaneously reactivated.

The etching medium is filtered in two stages to remove foreign particles.

Your benefits offered by the RotReg process:

- Constant etching rate
- Continuous recovery in recyclable form of copper and zinc
- Reduced refinishing costs, reduced personal costs
- Can be retrofitted to all etching machines
- Reduced disposal costs
- Modular design, can be configured for any capacity
- Process fluid regeneration according to German Water Management Act (WHG)



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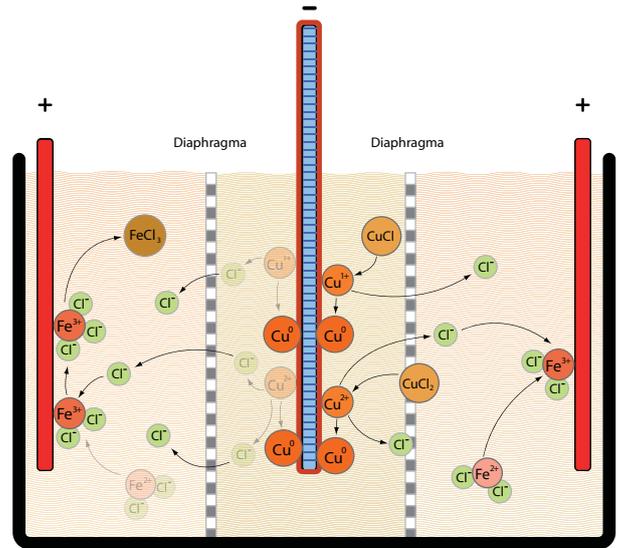
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Regeneration principle

The electrolyzer is divided into three chambers by two diaphragms. In the cathode chamber, the etched nonferrous metals (e.g. Cu, Zn, Ni) are reduced to elementary metals on a rotating titanium disc and scraped off outside the etching fluid.

In the anode chambers, the exhausted etching medium (Fe^{2+} -ions) is oxidized to a higher valency (Fe^{3+} -ions).

The chloride ion is released by the nonferrous metal reduction, diffuses through the diaphragms and forms fresh FeCl_3 .



The concentration of foreign metals should be greater than 10 g/l to obtain a maximum currency yield. The figure shows the trend of concentration of metal ions in the solution; for example: Cu and Zn.

The concentrations vary dependent on the input of metal and the capacity (discharge) of the plant between an minimum and a maximum point.

Connection of a RotReg NE/FeCl system to any etching machine

