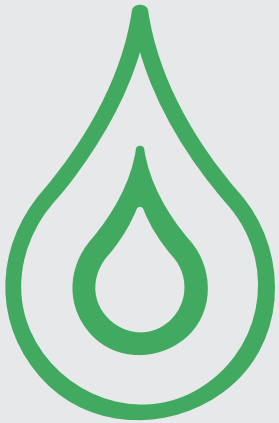

GLANCO

Recover & Recycle

www.glancorecover.com

ABOUT US

GİLAN's root is dating back to the jewellerystore established in Bursa in 1980. Later it has moved to Istanbul where GİLAN flourished as a renowned luxury jewellery house; creating exceptional pieces for strong, independent women of the 21st century. Our team of enterprising individuals work in collaboration to change the landscape of tomorrow.

GİLAN, due to its interest in innovation and high technology systems, has expanded currently its range of sectors in which it is serving with its new identity of Engineering / Design & Contractor Company which is aiming at constructing Water Treatment & Recovery Plants on turnkey basis for water which is essential for living substances but unfortunately being in shortage of its sources more and more each day.

GLANCO; with its high experienced engineering team in its body, is executing "recovering plants for "challenging to treat / recover waste water streams" and "plants for recovering chemicals at its source of generation and converting them into commercially valuable final products.

FIELDS of ACTIVITY

GLANCO
Recover & Recycle

01
WATER / WASTE WATER TREATMENT & RECOVERY PROJECTS

02
SPECIAL CHEMICAL RECOVERY PROJECTS


We Treat The Challanging Waste Water Streams

01 WATER / WASTE WATER TREATMENT & RECOVERY PROJECTS

1. Coke Gas Production Waste Water Stream Treatment Plants
2. Oil Refineries Waste Water Treatment Plants / Recycling Plants
3. Pulp & Paper Waste Water Treatment Plants & Recycling Plants
4. Dairy Waste Water Treatment Plants & Recycling Plants
5. Leachate Treatment Plants

Coke Gas Production Waste Water Stream Treatment Plants

Very Challenging Waste Water Streams are generated by Coke Gas Production Factories High cyanide, high COD, phenols, etc.. content

How can we remove cyanide from waste water by means of biological processes? Cyanide is always a threat to Biological activity!

We make special designs with cross flow type UF systems.....

The process configuration is such that; The biomass is filtered by a UF filter installation next to the bioreactor. The membrane modules are placed in a pressurized circulation loop located outside the bioreactor. Membrane fouling is prevented by the use of the shear forces created by the cross-flow operation of the membranes.

Beside treating this threatening waste water stream, we as GLANCO RECOVER & RECYCLE claim to generate Ammonium Phosphate fertilizer as stripping the ammonium from waste water (as well as absorbing it by sulfuric acid) sourcing out from “coke oven gas production process”.

Dairy Waste Water Treatment Plants & Recycling Plants

Dairy Industry is enlisted as one of the top most industries among the entire industries food arena. Apart from high consumption of water in multiple milk products like cheese, curd, butter, yogurt, dry milk powder; dairy industry further involves in some other processes like sanitary, cooling of milk products, cleaning and washing of the processing equipments. During the making and process of these products a large amount of water is used.

Dairy wastewater treatment is a big issue as dairy wastewater releases a high amount of Chemical Oxygen Demand, inorganic and organic particles, Biological Oxygen Demand and nutrients. Such contaminated water if not handled appropriately, it pollutes water bodies and largely affects our ecosystem and biodiversity.

There are various methods to treat this wastewater and it can be utilized again by removing the toxicity of the water like electro coagulation process, phytoremediation process, water hyacinth process, aerobic & anaerobic processes, cross flow UF system and reverse osmosis phenomenon & by some electrochemical processes.

We as GLANCO RECOVER & RECYCLE are designing Cross flow UF systems and cross flow RO / NF systems for treating and recycling of waste water from Dairy Factories in the motto of “PUSH THE BUTTON & GO”, as it is ever the most user-friendly technology.

Leachate Treatment Plants

Leachate contains various contaminants (i.e. organic) and inorganic pollutants), of which the composition and content varies with geographic location, waste composition, age, pH, moisture content, and other landfill site characteristic. Leachate requires pretreatment on-site to meet standards to discharge to wastewater treatment plants (WWTPs) or directly into surface water. In any case, available treatment technologies must be carefully reviewed to select the most feasible and efficient one.

We as GLANCO Recover & Recycle design using cross flow UF and cross flow RO / NF Systems.

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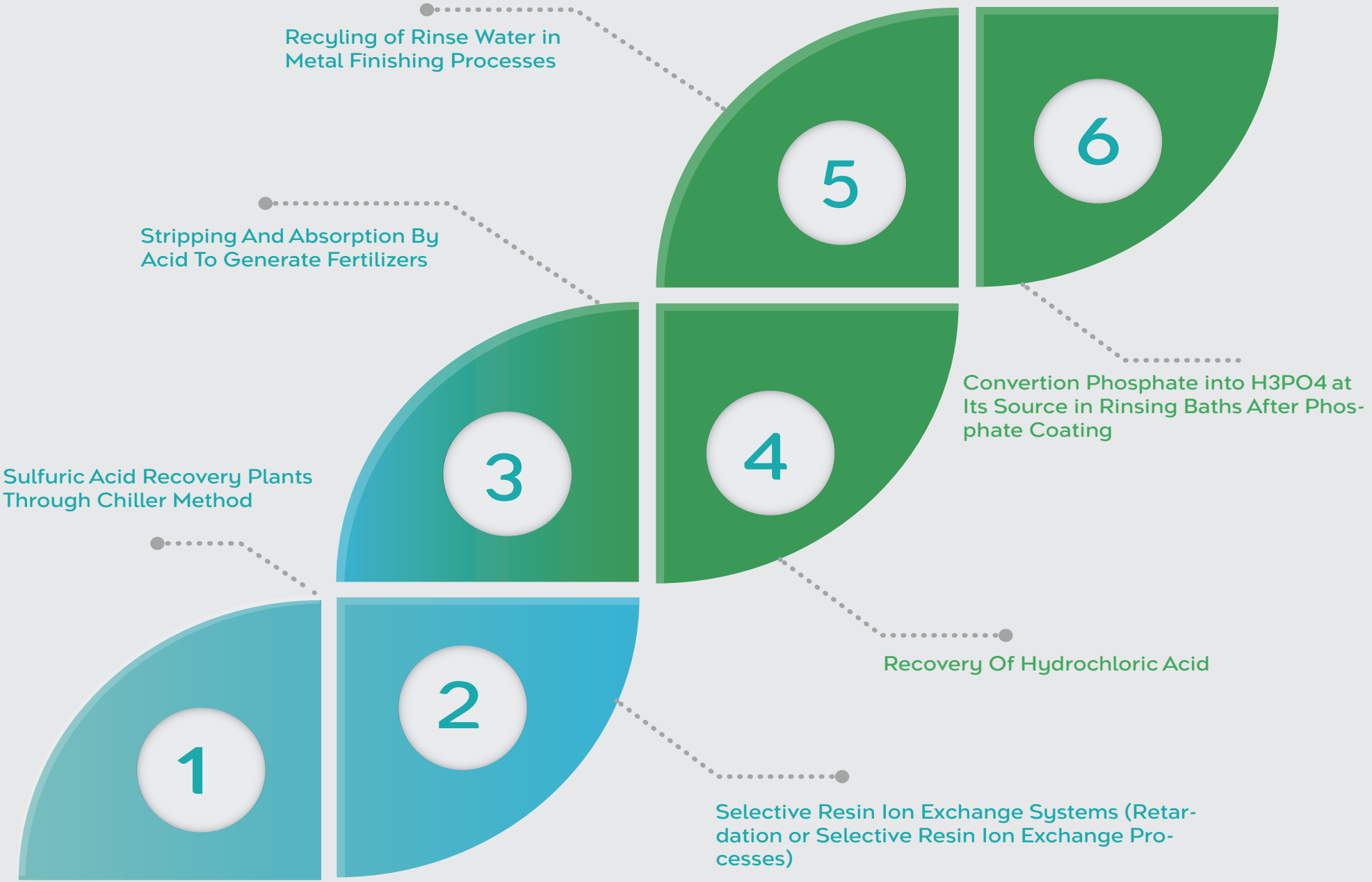
We Recover The Valuable and The Precious

02 SPECIAL CHEMICAL RECOVERY PROJECTS



Acid Retardation

In the eloxal (anodizing) coating baths, aluminium dissolves within sulphuric acid during eloxal process, thus aluminium concentration starts increasing. As the aluminium concentration increases in the eloxal bath, several problems occur.

We will describe these problems below. When the aluminium concentration is above 18 gr/l, it will not be technically possible to use the eloxal bath acidic solution (impuritised H2SO4 solution by aluminium).
Companies which do not have Acid Recovery Plant (GLANCO REM ALUMINIUM), add up some fresh acid into their eloxal baths, periodically, as to maintain a constant aluminium concentration in eloxal bath. (Al concentration is tried to keep down below 18 g/l in eloxal baths.)

As long as low concentration of aluminium is maintained in eloxal bath, several advantages come out. These advantages are; electrical energy save off since redressor current rate will not increase due to the constant aluminium concentration, H2SO4 chemical save off since % 18 - 20 concentration of H2SO4 will be recovered, waste water treatment plant chemical save off since there will be less “dumped away sulphuric acid”, etc...

Sulfuric Acid Recovery Plants Through Chiller Method

Pickling time decreases as temperature increases for sulfuric acid. Most pickling tanks are operated between 45 oC and 60 oC with a Sulfuric acid concentration of 15-20%. If that solution is cooled down to around 10-15 oC, most of the ferrous sulfate will come out of the solution as ferrous sulfate heptahydrate crystals.

Solubility of ferrous sulfate in sulfuric acid can be seen in Figure below. Iron concentration will be around 55-65 g/L Fe in pickling tanks. Process can be described as follows;

1. After filtering the acid solution, it is cooled down through the economizer before the crystallization. It is cooled with the solution that is coming out from the crystallization system. While temperature of the recovered acid is increased through the economizer, temperature of the feed solution which enters to the crystallization system is decreased. Thus, required energy for heating and cooling is minimized.

2. Cooled acid solution is fed to the crystallization system. Further cooling in the crystallizer will give Ferrous Sulfate Heptahydrate crystals (FeSO4.7H2O) because of the supersaturation created. Heat exchanger should be carefully designed in order to prevent crust formation.

3. Since the acid recovery process is a closed loop continuous system, optimum and constant acid/iron concentrations can be maintained in the pickling tanks.

4. The by-product ferrous sulfate heptahydrate (FeSO4.7H2O) which has a commercial value can be used in agricultural sector or waste water treatment plants.

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