

Precious Metal Recovery & Refining Equipment | >98% recovery

Gold Resin Recovery Machine

Ion-exchange resin that strips gold out of solutions too dilute for electrolysis.



A gold adsorption recovery barrel using functionalised styrene-divinylbenzene resin to capture gold-cyanide complexes selectively, with an automatic circulation system for 24 hour unattended operation and recovery rates above 98 percent on most plating and leaching solutions.

The problem it is built for

Below a certain gold concentration, electrolysis stops being efficient and precipitation stops being clean. Resin adsorption is the method that still works at extremely low concentrations, which is exactly where cyanide leach liquor, e-waste leachate and plating wastewater sit.

Published specification

Parameter	Value
Product name	Gold adsorption recovery barrel for gold plating solution
Principle	Selective ion exchange adsorption of gold-cyanide complexes
Resin skeleton	Styrene-divinylbenzene copolymer, cross-linked
Active groups	Quaternary ammonium or other cationic groups
Recovery rate	Above 98% on most plating or leaching solutions
Operation	Automatic circulation, 24 hour continuous
Regeneration	Resin regenerated with mild elution agents and reused
Typical feeds	Cyanide leaching solution, electronic waste leaching solution, electroplating wastewater

Gold Resin Recovery Machine - features and applications

What is built into it

Feature	What it does
Selectivity, not brute force	The resin binds gold ions and gold-cyanide complexes specifically while impurities stay in solution, which is what makes separation and enrichment possible at very low concentration.
Engineered pore structure	Micro and mesoporous channels give a large specific surface area and let gold ions diffuse into the resin interior, which is where the fast adsorption kinetics come from.
No cyanide decomposition step	No secondary pollution is generated during adsorption, and the process water can often be reused after treatment.
Runs unattended	An automatic circulation system pumps solution through the resin bed continuously, so a 24 hour cycle needs minimal supervision.
Regenerate and reuse	Once the resin is saturated it is eluted with mild agents and put back into service, which is what keeps the consumable cost down against a single-use medium.

Where it is used

- Low-grade gold solutions from cyanide leaching
- Electronic waste leaching solution
- Electroplating wastewater and rinse streams
- Any gold-bearing liquor too dilute for economic electrolysis

Questions buyers ask

When should I use resin instead of the electrolytic recovery machine?

Concentration decides it. Resin adsorption is specified for low-grade solutions such as cyanide leach liquor, e-waste leachate and plating wastewater. The electrolytic machine is the choice on richer plating and strip solutions.

How much gold does it recover?

Above 98 percent for most plating or leaching solutions, per the source description.

Is the resin consumed?

No. After saturation it is regenerated with mild elution agents and reused repeatedly.

How is it cleaner than precipitation or electrolysis?

The source contrasts it as cleaner, faster and more stable with minimal energy consumption, and notes there is no cyanide decomposition or secondary pollution during adsorption.

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