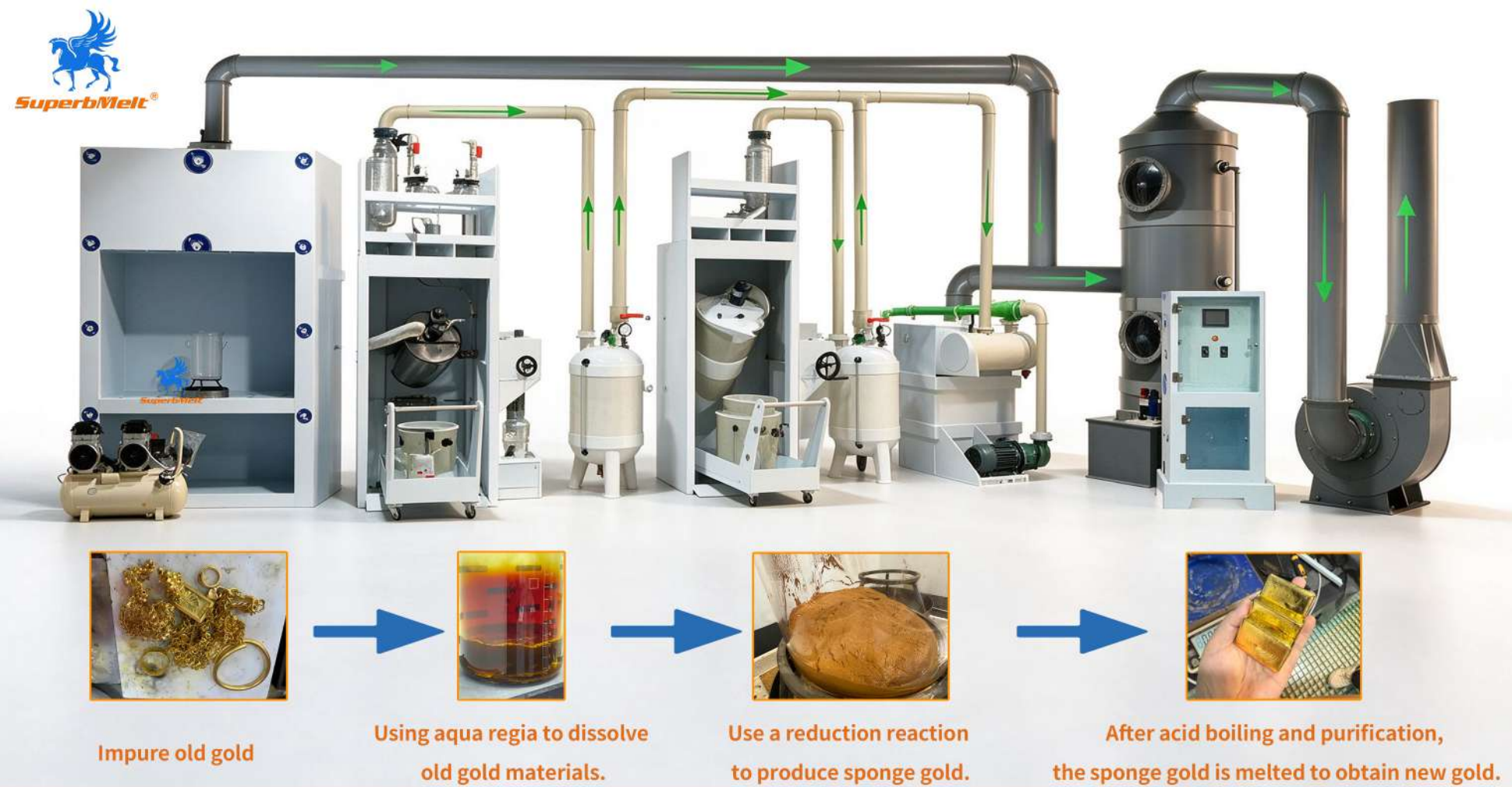




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Gold Refining Solutions

Operating Table Fume Hood

Description

Integrated Material Pre-Treatment & Sponge Gold Washing System

Integrating raw material pre-treatment, sample preparation, and sulfuric acid washing of sponge gold, this system is designed with an effective exhaust ventilation system to control acid mist and impurity gases generated during operation.

The equipment provides a safe and dedicated operating space for refining material handling, as well as impurity removal after purification. This helps improve overall refining efficiency while ensuring a safer and cleaner working environment.

Application:

The system is used for raw material preparation before refining and secondary impurity removal from sponge gold, providing cleaner feed material and a solid foundation for subsequent high-purity gold refining.



Reaction Fume Hood

Description

Core Functions & Features:

Specifically designed for the dissolution stage of gold refining, this station works together with a high-purity titanium reactor to achieve stable and efficient dissolution of precious metals under aqua regia conditions. The system adopts an effective ventilation structure to collect and exhaust acidic gases generated during the reaction, helping maintain a safer operating environment and ensuring stable equipment operation.

Application: Used for the aqua regia dissolution of gold-bearing raw materials, converting gold into a chloroauric acid solution for subsequent purification and refining processes.

3. High-Purity Titanium Reactor (Automatic Stirring & Dissolution System)

Core Functions & Features: The reactor is manufactured from corrosion-resistant high-purity titanium, providing excellent resistance to strong acids and enabling stable, long-term operation in the aqua regia gold dissolution process.

Equipped with an automatic stirring system, the reactor ensures uniform mixing of the solution, accelerates the reaction process, and improves gold dissolution efficiency.

Application: As the core dissolution reaction unit, the reactor is used to thoroughly dissolve gold-bearing materials and convert the gold into a high-purity chloroauric acid solution for subsequent purification and refining processes.



Vertical Collection Tank

Description

Core Functions & Features:

The vertical collection tank is designed to collect small amounts of gases and liquid impurities generated during the refining process, providing auxiliary buffering and centralized management within the process flow.

The tank is constructed from corrosion-resistant materials, making it suitable for operation in acidic environments and helping improve the overall stability and reliability of the system.

Application:

It is used to assist in collecting reaction by-products, reduce pressure fluctuations within the pipelines, and help ensure the smooth and stable operation of the overall refining system.



Reduction Fume Hood

Description

Core Functions & Features:

Provides a ventilated reduction operating environment and is equipped with a PP (polypropylene) reduction tank to meet the requirements of gold precipitation from acidic solutions.

The system is equipped with an automatic stirring system, ensuring thorough and uniform contact between the reducing agent and the chloroauric acid solution. This helps improve the reaction efficiency and enhance the precipitation efficiency of gold powder.

Application: Used to complete the reduction reaction of chloroauric acid, converting gold ions into high-purity sponge gold for subsequent refining and impurity removal processes.



Negative Pressure Unit

Description

Core Functions & Features:

The system uses negative-pressure suction to collect and concentrate acid mist and trace gases generated during the refining process for centralized treatment.

It maintains stable negative-pressure operation throughout the refining system, helping prevent the diffusion of potentially harmful gases into the operating area and improving overall workplace safety.

Application:

The unit connects the front-end refining equipment with the terminal environmental protection treatment system, enabling the safe transfer, centralized collection, and purification of exhaust gases generated during the refining process.



Scrubber Tower

Core Functions & Features:

The system adopts a multi-stage spray structure, using circulating alkaline solution to effectively absorb and neutralize acidic exhaust gases generated during the refining process.

This equipment is to improve exhaust and support exhaust gas purification efficiency and supporting compliance with applicable environmental emission requirements.

Application:

The scrubber tower provides deep purification treatment for acidic gases collected by the negative-pressure exhaust system, helping achieve safe and environmentally responsible exhaust gas discharge.



Centrifugal Fan

Description

Core Functions & Features:

The system uses a high-efficiency centrifugal fan to provide stable airflow and continuous power for the entire exhaust gas treatment system, maintaining a consistent negative-pressure environment throughout the process.

It features high airflow capacity and low-noise operation, ensuring stable exhaust gas transfer and reliable final discharge.

Application:

The centrifugal fan safely discharges the purified and treated gases to the outside environment, completing the entire exhaust gas collection, purification, and environmental treatment process.



Filter Cart

Description

Core Functions & Features:

The filter cart is designed to filter and separate the solution during the dissolving and reduction, enabling the rapid separation of solid sponge gold from the residual liquid.

Its mobile design facilitates convenient material transfer and handling, improving process continuity and operational efficiency.

Application:

The system is used to recover sponge gold produced during the reduction process, providing clean gold material for subsequent washing, drying, and melting processes.

