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DEPARTMENT OF
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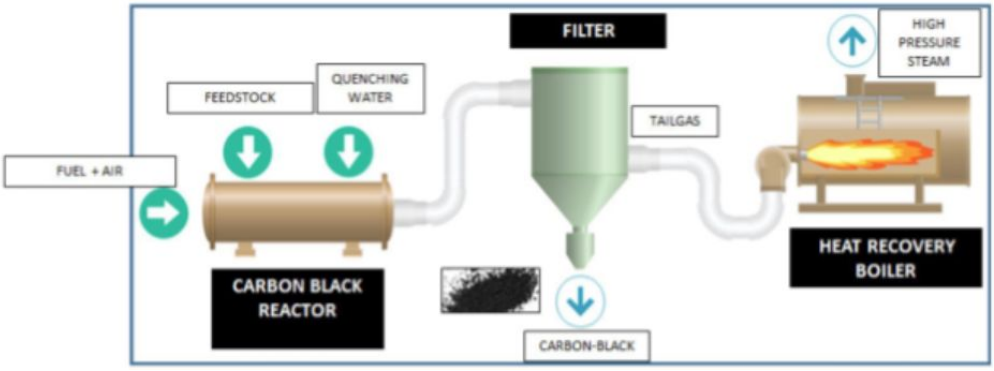
PENDING

(IN202411077468) A method of processing tail gas



NEED

Industrial manufacturing processes often release tail gases that contain harmful pollutants. Without proper treatment, these gases contribute to environmental damage. This technology offers an efficient method to process and reclaim valuable components from tail gases.

TECHNOLOGY OVERVIEW

This patented method cools and processes tail gases in a two-phase thermodynamic cycle, recovering water and vapor streams while reducing harmful emissions. The process includes condensation, pressurization, and component separation, making it an energy-efficient solution to manage waste gases in manufacturing environments.

TECHNOLOGY KEY FEATURES

The technology uses Organic Rankine cycle to cool tail gases, condense and pressurize them, and separate components at a flash drum. This closed-loop recovery process offers energy savings and water reclamation, reducing environmental impact.

Read more here

MARKET ANALYSIS

The global industrial waste heat recovery market is expected to grow at a CAGR of 7.3%, reaching $10.4B by 2033 (source: MarketsandMarkets). With increasing industrial regulations, energy recovery technologies like this are critical in reducing emissions and energy waste.

Target Industries

1) Energy recovery solution providers, 2) Manufacturing industries with waste gas streams, 3) Environmental service providers focusing on waste management.

AT A GLANCE

- SDG 9 (Industry, Innovation, and Infrastructure), SDG 13 (Climate Action)

Technology is available for licensing/ co-development.

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