

SolarTech Power Solutions

Desulfurization and denitrification in solar panel plants



Overview

To optimize efficiency and minimize capital costs, some power plants adopt integrated desulfurization and denitrification technologies, such as electron beam treatment or activated carbon adsorption. Is there a method for simultaneous desulfurization and denitrification?

While SO₂ and NO_x were both present in the coal combustion flue gas, therefore, a high efficiency, integrated and low-cost method for simultaneous desulfurization and denitrification is needed urgently. There were some researches on wet method up to now, while studies on semi-dry removal was rare.

What is the integrated technology of desulfurization and denitrification?

The integrated technology of desulfurization and denitrification is now widely studied in China. (20) For example, an iron-based oxide desulfurization and denitrification catalyst was prepared by an equal-volume impregnation method, which can effectively remove SO₂ and NO_x in the tail gas of the petroleum industry.

What is flue gas desulfurization & denitrification?

1. Introduction The reduction of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) in industrial flue gas is essential for mitigating environmental pollution and complying with air quality standards. The primary technologies employed for these purposes are Flue Gas Desulfurization (FGD) and Denitrification.

How is desulfurization done in a power plant?

Various methods are employed to achieve effective desulfurization, including wet, dry, and semi-dry techniques. Wet desulfurization, especially the lime-gypsum method, is one of the most widely used technologies in large-scale power plants. Process Overview: Absorbent: Limestone (CaCO₃) is used as the absorbent.

What is the difference between desulfurization and denitrification efficiency?

The desulfurization and denitrification efficiency was higher, the reaction temperature was higher, and the optimal reaction conditions were reached at 350 °C. However, when O₂ was added, the desulfurization efficiency was rapidly reduced to 40%, and the denitrification efficiency was reduced to 20%.

Can O₃ oxidation be used for simultaneous desulfurization and denitrification?

A composite absorption liquid for simultaneous desulfurization and denitrification in flue gas. Chin. J. Chem. Eng. 27, 2566–2573 (2019). Ma, Q. et al. Characteristics of O₃ oxidation for simultaneous desulfurization and denitration with limestone–gypsum wet scrubbing: Application in a carbon black drying kiln furnace.

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