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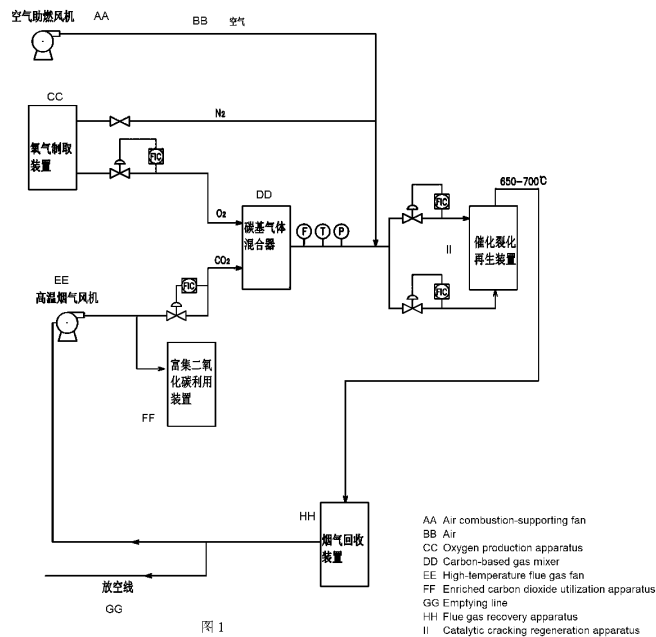
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(54) Title: TOTAL RECOVERY PROCESS FOR CARBON DIOXIDE DISCHARGED BY CATALYTIC CRACKING REGENERATION APPARATUS

(54) 发明名称: 催化裂化再生装置排放二氧化碳全回收工艺



(57) Abstract: A total recovery process for carbon dioxide discharged by a catalytic cracking regeneration apparatus. A system required by the process comprises the catalytic cracking regeneration apparatus, a flue gas recovery apparatus, a high-temperature flue gas fan, an oxygen production apparatus, and a carbon-based gas mixer. The flue gas of the catalytic cracking regeneration apparatus is circulated, and the carbon dioxide concentration is improved, such that the carbon dioxide is easier to capture, favorable conditions are created for low-cost CCUS, the emission of the carbon dioxide is reduced, and the greenhouse effect is reduced; and meanwhile, the circulating

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flue gas and oxygen are mixed to produce a carbon-based gas, and the carbon-based gas is used as a combustion-supporting gas of the catalytic cracking regeneration apparatus, and nitrogen is replaced with the carbon dioxide, such that generation of nitrogen oxide in a combustion process is avoided, environmental pollution is reduced, and denitration costs are greatly reduced. After nitrogen is replaced with the carbon dioxide, the radiation intensity in the catalytic cracking regeneration apparatus is greatly improved, the reaction from C+CO₂ to CO is promoted, the combustion effect is greatly enhanced, the reaction is more complete, and the effects of saving energy and reducing consumption are achieved.

(57) 摘要: 一种催化裂化再生装置排放二氧化碳全回收工艺, 工艺所需系统包括催化裂化再生装置、烟气回收装置、高温烟气风机、氧气制取装置、碳基气体混合器。将催化裂化再生装置烟气循环, 二氧化碳浓度提高, 使二氧化碳捕集更加容易, 为低成本CCUS创造有利条件, 减少二氧化碳的排放, 降低温室效应, 同时将循环烟气和氧气混配制取碳基气体, 以碳基气体作为催化裂化再生装置的助燃气体, 由二氧化碳替代氮气, 规避燃烧过程中氮氧化物生成, 减少环境污染, 且降低脱硝费用。二氧化碳替代氮气后, 大幅提升催化裂化再生装置内辐射力度, 促进C+CO₂→CO的反应发生, 增强燃烧效果, 反应更加完全, 达到节能降耗的效果。