GRANULAR-BED FILTER PLANT FOR REMOVAL OF DUST FROM INDUSTRIAL GASES

Description
In the granular filter plant for removal of dust from industrial gases, the filtering material is a granular carbon bed. During filtration, dusty gas is passed through the filter sections with the granular carbon material with its periodic regeneration. During regeneration, dust is removed together with part of the gas being filtered. The gas purification plant was designed to treat gases with a dust content of up to 5 g/m³. Uniform regeneration of the granular bed is performed over a short period of time, which produces conditions for prolonged operation without failure of the carbon material granules and its substitution in the bed. For the average filtration-process parameters, the life of the bed is 6-12 months, after which the bed is replaced. Special treatment of the granular bed can increase the service life of the filtering bed by a factor of 2-3. Use of the granular filter plant allows a decrease in the load on secondary gas filters.

Technical appraisal and economic benefits
Constant utilization of filtering materials (fabrics) is eliminated, which is important in handling hazardous and radioactive materials.

Application areas
The plant is designed to remove soot from gases and can be used to remove dust from gases in various industries, including petrochemical plants and ferrous and nonferrous metallurgy.

Development stage
The proposed technology was implemented on a 6000-m³/h capacity pilot plant for removal of soot from gases; tests of a pilot plant with a capacity of 100000 m³/h were performed at the Sosnogorsk gas-processing plant.

Patent situation
Seven USSR Inventor’s Certificates were granted. Know-how is available.

Commercial offers
Sale of licenses for fabrication of the plant; joint commercialization.

Estimated cost
US$ 60,0 for transfer of the know-how and scientific and technical documentation for a plant with a capacity of 100000 m³/h.

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