

A water recycling system featuring on-site regeneration of used activated carbon

Water Recycle Treatment System

Features

The high-level water recycling system for wastewater treatment eliminates the need for infrastructure (free of water or sewage charges) and does not produce any waste.

The treatment cost for treating 1m³ of wastewater is less than roughly 10 yen/m³, the purchasing cost of activated carbon for replacement is zero, and mobile treatment (mobile system) is supported.

The power consumption for treating 1m³ of wastewater is approximately 0.5KW/m³ or lower. The installation space required by the space-saving system is less than one tenth of that required by conventional models.

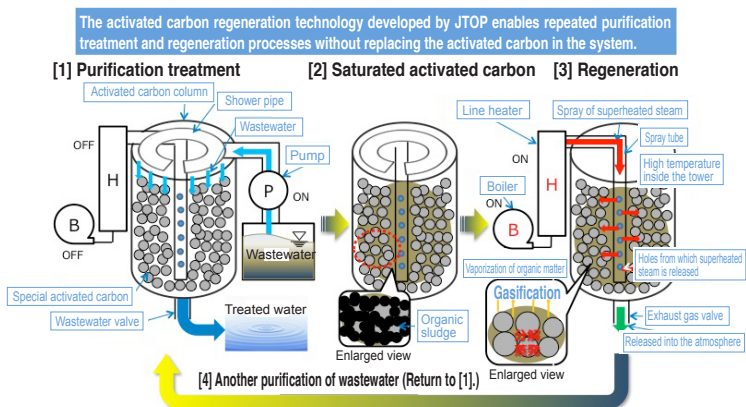
Overview

(Technical principles, actions, etc.)

The wastewater treatment technology of J Top is an innovative “activated carbon recycling technology” that purifies water by adsorbing the contaminants in wastewater with activated carbon and then recycling the activated carbon by evaporating the adsorbed contaminants using superheated steam.

When organic wastewater emitted from factories runs through an activated carbon column, the adsorption effect of the special recyclable activated carbon filters out the organic matter in the wastewater. Then, steam superheated to 300 ° C to 500 ° C is fed to the activated carbon saturated due to the adsorption effect. The steam removes the organic matter from the surface of the activated carbon, and the organic matter is emitted from the equipment as waste gas. The activated carbon regains the same performance as new activated carbon. This wastewater treatment method does not generate any waste or sludge. The activated carbon does not have to be removed from the equipment for reuse. Thus, the weight loss of the activated carbon is nearly zero.

The characteristics of this technology include its low cost, compact size, ease of operation and installation, sludge reduction, advanced treatment and recycled water generation, as well as the treatment of colored wastewater and persistent materials, and odor removal.

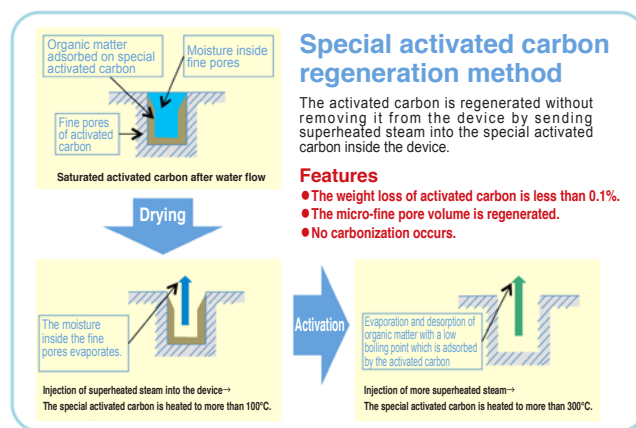


Introductory Track Record

- Number of companies using this technology in Japan: More than 30 companies
- Selected as the expansion and demonstration project by the Ministry of Foreign Affairs of Japan
- Selected project of Japan Oil, Gas and Metals National Corporation
- 2014-2016 Selected as a certified item in the “City of Osaka New Business Field Development Project”
- The website of Osaka prefecture introduced our technologies. http://www.pref.osaka.lg.jp/keizaikoryu/water_promotion/jica_nesia1.html
- “Excellence Award” of the 25th Mid-to-Small Business Excellent Technology and Product Award

Effects

- The costs for purchasing new activated carbon or replacing the carbon is zero, and no waste is produced (including used activated carbon).
- Low running cost – the cost for treating approximately 1m³ of wastewater is less than approximately 10 yen/m³ (the running cost is less than approximately 1000 yen for treating 100m³ of wastewater a day. The cost varies depending on the wastewater treatment specifications or the concentration of organics.)
- The required installation space is very small - only one tenth or less of that required by conventional models. Dimensions for a system with a treatment capacity of 500m³/day: Approx. 4m × 4m = 16m² (Equivalent to the space for 2 regular vehicles.)
- The initial cost is low – about a half that of conventional systems. Removes biorefractory COD, discoloration, and reduces offensive odor. Mobile water treatment is supported (less than the size of a 20-ft container).



Applicable field
Textile mills, food factories and other industrial factories
Super public baths, mountain toilets, human waste disposal systems, etc.

Water

Energy saving/Energy recovery

Energy storage/Energy creation

New energy

Waste disposal/
Recycling/
Resource saving

Air

Soil

Other

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