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Patent Search

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Abstract:

Disclosed is a wastewater treatment system (100) including a filter unit (106), a valve unit (116) and a processing circuitry (114). The filter unit (106) is configured to remove impurities from wastewater and generate filtered water, the filter unit (106) further includes a membrane (108), wherein the membrane (108) is a graphene-based membrane, a first sensor (110) configured to sense a first signal representing a temperature of the filtered water, and a second sensor (112) configured to sense a second signal representing a flow rate of the filtered water (106). The valve unit (116) comprising a first outlet (120) and a second outlet (122) configured to transfer filtered water. The processing circuitry (114) coupled to the first sensor (110) and the second sensor (112) such that the processing circuitry (114) is configured to determine a performance score based on the first and second signals representing temperature and flowrate. A method (200) for treating wastewater is provided.

Complete Specification

Description:TECHNICAL FIELD
The present disclosure relates generally to a wastewater treatment. More particularly, the present disclosure relates to a system and a method for treatment of wastewater.
BACKGROUND
Automatic water treatment modules for washing machines are designed to improve the quality of water used in the washing process and increase the shelf life of the machine. These machines incorporate various technologies to solve general water-related issues such as hardness, impurities, and contaminants.
Hard water is known to contain high levels of minerals like calcium and magnesium, that effects the parts of the machines and clothes causing accumulation of limescale, reducing the effect of detergent, and leaving mineral deposits on clothes, making them feel stiff and look dull. To combat this, water treatment modules often incorporate water softening mechanisms.
Water softeners work by replacing the minerals in hard water with sodium or potassium ions through a process called ion exchange. They typically include tank filled with resin beads that attract and retain calcium and magnesium ions, allowing the softened water to pass through. Periodically, the resin beads need to be regenerated by flushing them with a brine solution to remove the accumulated minerals.
In addition to water softening, some modules may incorporate other filtration or treatment methods to remove impurities and contaminants. These can include activated carbon filters to remove chlorine, sediment filters to remove particles, and even advanced technologies like reverse osmosis or ultraviolet (UV) disinfection.
The available automatic water treatment modules have limitations such as they lack proper elimination of certain chemicals or heavy metals present in the water supply. In such cases, more efficient water treatment systems overcome the problems associated with the present water treatment systems.

View Application Status