

ADVANCED ELECTRO-COAGULATION DEVICE AND PROCESS OF USING THE SAME FOR WASTEWATER TREATMENT

ABSTRACT

The present invention provides an electrocoagulation device for drinking water and wastewater treatment by electro-coagulation and electro-catalytic precipitation principles. The invented device comprises a number of electrolysis cells formed by round-shaped electrode plates through which the raw water and waste water passes. A low DC voltage of 5 to 15 volts is applied to the cells. In addition, an electrode surface activator unit is provided to eliminate or minimize the passivation of the electrode plates. All types of impurities, including suspended solids, sub-micron particles, dissolved matters, dissolved minerals (including heavy metals and colloidal compounds), oil, grease, organic compounds and algae are converted to flocculants, water and carbon dioxide by the device. Micro-organisms and bacteria (pathogens) will be effectively killed at up to 99.99%. The invented device is capable of continuous operation.

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