

Abstract

The invention discloses a method and a device for super advanced sewage treatment. The method is characterized in that electro-osmosis is combined with ion exchange, wherein an electro-osmosis unit is an electrolytic bath, a cathode/anode-equivalent micro-pore titanium filter cylinder electrode array and a design that a flow field is parallel to an electric field are adopted, strongly alkaline anion-exchange resin is filled between electrodes; a pump drive is adopted to input the sewage from the bottom of the electrolytic bath in the form of single stream. The sewage is divided into a cathode effluent and an anode effluent through a filter cylinder electrode. The cathode effluent and the anode effluent respectively enter exchange columns filled with hydrogen and sodium cation exchangers so as to prepare a part of desalted water after the super advanced treatment and disinfection solution with disinfection function. The scaling of the electrodes and the alternate regeneration and operation of the subsequent ion-exchangers can be controlled through electrode reverse operation. The method is completely endogenous, does not need any chemical agents or generate secondary pollution, and has wide adaptability in the aspect of the advanced purification of the sewage, so a wide space is provided for the application and development of the method.



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