

The invention refers to treatment of natural underground waters with sulphureted hydrogen content with the object of improving the potable quality thereof and reducing the water aggressiveness upon concrete and metal structures.

The process for sulphureted hydrogen removal from underground waters includes biological treatment thereof in aerobic conditions in a bioreactor by means of sulphur bacteria fixed onto a solid submerged carrier, afterwards the water is subjected to coagulation with the subsequent sedimentation in a decanter of the sulphur bacteria biomass surplus and, partially, of the colloidal sulphur. The final clarification of the water is carried out by removal of the colloidal sulphur in high-rate trickling filters and by final removal of the sulphureted hydrogen by chlorination.

With the aim of realizing the process for sulphureted hydrogen removal from underground waters it is proposed a compact installation containing a bioreactor with plastic charge, having a specific developed surface for fixation of the sulphur bacteria, provided with a system for unboiled water supply, combined with an aeration system with ejectors mounted onto the pipelines for unboiled water supply, decanters with a built-in vortical flocculence chamber and high-rate trickling filters, placed in a common body.

The result of the invention consists in increasing the efficiency of biological removal of increasing the efficiency of biological removal of the sulphureted hydrogen, in increasing the removal degree of the suspended materials, in reducing the consumption of chlorine, in increasing the useful specific surface and decreasing the charge density of the bioreactor, as well as in increasing the capacity of the installation.