

The defouling of membranes using polymer beads containing magnetic micro particles

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Abstract

Polymer membranes provide a good method of obtaining potable water but, as membranes always foul during water purification, the flux drops with time. Methods of physical cleaning of the polymer membranes, which do not require the plant to be shut down for lengthy periods, are very attractive and also do not generate any waste fluids. This paper reports on an investigation into the possibility of obtaining flux enhancement during the filtration process, as well as the cleaning of membranes, using magnetic polymer beads moving under the influence of an AC magnetic field. Methods, procedures and results for cleaning membranes using magnetic beads, at zero trans-membrane pressure, are described.

Keywords: membrane cleaning, magnetic particles