

Slow Sand Filtration

Author(s):	L Huisman, WE Wood
Publisher:	WHO
Year:	1974
Links:	PDF
Subjects:	Filtration, Water supply



The object of this volume is to discuss the various aspects of one particular form of water treatment-the " biological filtration " or " slow sand filtration" process. This system of water purification has been in continuous use since the beginning of the nineteenth century, and has proved effective under widely differing circumstances. It is simple, inexpensive, and reliable and is still the chosen method of purifying water supplies for some of the major cities of the world.

A myth has grown up that this process is old-fashioned and therefore inefficient, that new techniques have rendered it obsolete, and that because it is simpler than many more recent innovations it is necessarily inferior to them.

None of these objections to biological filtration is warranted. In many circumstances it is still the most appropriate choice when treatment methods are being selected, and the designer who automatically turns to other methods is often acting in ignorance of the potentialities of the technique.

It is perhaps paradoxical that this water treatment process, the oldest of them all, is one of the least understood and that less scientific research has been carried out into its theoretical and practical application than into other more recent but less effective methods. It is hoped that this volume will help to redress the balance. No startling new discoveries are reported; rather, the book gathers together the results of practical experience gained in many countries under diverse conditions and summarizes the theoretical work carried out in many institutions on different aspects of the process.

It does not claim that the processes described are necessarily applicable everywhere and under all conditions; indeed, no single panacea has yet been found, or is likely to be found, that will solve every water treatment problem. It is hoped, however, that it will enable those responsible

for deciding on treatment methods for new supplies to judge whether safety, efficiency, and economy may be more readily attainable through the use of slow sand filters than through the use of any other comparable method in the prevailing conditions.

Before proceeding to describe the details of the process, we shall first consider the criteria upon which such judgements depend.