

Abstract

System and Method for Filtration of Liquids

The present invention relates to a system and a process of running the system that allows for the long term filtration of product without loss of filtration capability due to clogging or fouling. The system is a normal flow filtration system having one or more filter cartridges attached to an outlet of a housing in the system. The filter cartridge(s) are contained within a bowl and depend preferably vertically from the outlet. Liquid enters the bowl of the housing and contacts the outer surfaces of the one or more cartridges. Impurities are trapped on or in the surface of the filter and the filtered liquid flows through the filter and through the outlet. One or more parameters such as flow rate, transmembrane pressure drop and/or time are measured and when the desired parameter(s) are met, the filtration ceases. A backflushing occurs back through the filter cartridges so as to remove the trapped impurities on or in the filter surface. This backwashed material is directed to an outlet of the bowl that is connected to a drain. Additionally a port formed in the side of the housing adjacent an outer surface of the cartridge(s) can be used to provide a lateral washing of the filter surfaces. The system is then recirculated in a downstream manner to reestablish equilibrium and filtration is the restarted.

Figure 1