

The pressure membrane techniques as BAT in dairy industry

E. Polom

*Faculty of Chemical Technology and Engineering, Chemical Engineering and Environmental Protection Institute,
West Pomeranian University of Technology, Szczecin, al. Piastow 42, 71-065 Szczecin, Poland
Tel. +48 (91) 4494472; Fax +48 (91) 4494642; email: Ewa.Polom@zut.edu.pl*

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ABSTRACT

Progress of industrial development since years has been causing problems with increasing amount of environmental pollution as well as the levels of sources and energy consumption. Finally the environmental problems were considered as the prior value in the European Union (EU) law regulations. In 1996, common rules for permitting and controlling industrial installations were adopted by the European Council as the Integrated pollution Prevention and Control (IPPC) Directive. In essence, the IPPC Directive is about minimizing pollution from various industrial sources. According to the Annex I of the IPPC Directive operators of industrial installations are required to obtain an environmental permit. The conditions of the authorisation are mainly based on Best Available Techniques (BAT), the second principle of the IPPC Directive. The main environmental impacts related to the dairy industry are: the high consumption of water and energy, the discharge of effluent with a high organic load like whey in the wastewater. The high level of environmental protection is offered by membrane processes. The practical employment of membranes is one of the methods leading to rationalization of industrial technologies what is the aim of the main European law regulations such as the IPPC Directive.

Keywords: Pressure membrane processes; Microfiltration; Ultrafiltration; Nanofiltration; Reverse osmosis; Dairy industry; BAT
