Uses of Modular Self Pressurized Membrane Bioreactor

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SUMMARY

The modular self-pressurized membrane bioreactor is now a concept that is already preliminary tested with good results.

Many researches on alternative fuel consider that ethanol is a good replacement for actual fuels. On this way, using the process proposed is a promising method considering the efficiency given by energy consumption reduced by using the carbon dioxide accumulated in system as pressure what represent the main driving force for membrane separation process.

Considering pervaporation as main process for separation of azeotropic compounds from culture medium, this system can be implemented in some areas of industry as follow: pollution control applications, the treatment of wastewater contaminated with organics (Lipski et al., 1990); harvesting of organic substances from fermented broth (Garcia et al., 1991), separation of 99.5% pure ethanol-water solutions (Dutta et al., 1991), recovery of valuable organic compounds from process side streams (Kashemekat et al., 1981). Because of the versatility in configurations of the self-pressurized membrane bioreactor, if it is not used the vacuum system, the pressure generated by the membrane bioreactor can be used in any places where separation through membrane is needed.

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REFERENCES


