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Comparative power demand of mechanical and aeration imposed shear in an immersed membrane bioreactor

P. Buzatu, M.S. Nasser, H. Qiblawey, S. Judd

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## **Highlights**

Mechanical and aeration-imposed shear in an immersed membrane bioreactor compared Sludge rheology encompassed using literature viscosity ( $\eta$ ) vs shear ( $\gamma$ ) relationships Specific power demand determined as a function of  $\gamma$  for both systems Power demand for mechanical shear 20-70% less than that of conventional air scouring Absolute power demand strongly dependent on sludge rheological properties ( $\eta$  vs.  $\gamma$ )

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