

구형조 및 원통교반조에서 패들임펠러의 교반소요동력 특성

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Power consumption for paddle impeller in spherical and cylindrical agitated vessel was measured over a wide range of Reynolds number from laminar to turbulent flow regions. The power correlation was application to both spherical and cylindrical vessel, when the apparent diameter of the spherical vessel was equal to the diameter of the cylindrical vessel which had a height equal to its diameter and had the same volume as the spherical vessel. The power consumption was well correlated with the experimental results of Nagata, et al. and Hixson-Baum. Also the critical Reynolds number was directly related to the coefficient C_{tr} characterizing the transition from a laminar to a turbulent flow region in the correlation proposed here.