

Performance of a Shaking Vessel with Current Pole

이영세*
경북대학교
(ysl@knu.ac.kr*)

To improve solid particle suspension in liquid in a shaking vessel, a pole was installed at the axis of the shaking vessel, which was referred to as the "current pole". The performance of a shaking vessel with current pole at its central axis was examined experimentally with respect to particle dispersion, power consumption, mixing time and solid-liquid mass transfer coefficient. The current pole improved the particle suspension without an increase in power consumption and reduced the critical circulation frequency for complete suspension. The current pole was very effective to eliminate the stagnation point on the vessel bottom and to decrease the mixing time. The mass transfer coefficient with a current pole had the same value as that without a current pole above the critical circulation frequency for complete suspension. As the diameter of the current pole increased, the mixing time decreased. A pole diameter of 5% of the vessel diameter was effective for suspension.