

## CFD를 사용한 조력발전소 수문의 통수성능 연구

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### Numerical Investigation on the Water Discharge Capability of Tidal Power Plant Using CFD

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The design methodology of the sluice caisson structure is one of important factor that is closely related to the efficiency in tidal power generation. When the sluice caisson is designed to maximize the water discharge capability, it is possible to minimize the number of sluice caissons for attaining the water amount required for achieving the target power generation, which results in reduction of the construction cost for the sluice caisson structure. The discharge capability of sluice caisson is dependent on the geometrical conditions of an apron structure which is placed in both sides of the sluice caisson. In this study, we investigated numerically the variation of water discharge capability of sluice caisson according to the geometrical conditions of apron. Flow fields are simulated with FLOW-3D software using VOF method.

**Key words** : Tidal power plant(조력발전소), Sluice caisson (수문), Water discharge capacity(통수성능), Discharge coefficient(통수계수)

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