

## HYDRAULIC EFFICIENCY OF THE COANDA INTAKES ON THE RONQUITO, RONCO AND ANTARA RIVERS

Galo Muñoz, María Lafuente, Marcelo Terán

### ABSTRACT

The purpose of this study is to know the hydraulic efficiency of the Coanda type intake works in three mountain rivers of the sub-Andean region of Bolivia, these works are part of the San José 1 Hydroelectric Power Plant and are located in the department of Cochabamba, Chapare province of the Municipality of Villa Tunari. For this study, the gauged captured flows were compared with the captured flows simulated by the Numerical Model of Coanda Screen Performance program. Gauging campaigns were carried out in the three rivers during the period March 2018 to February 2022. The number of campaigns and their frequency was limited by the advent of Pandemic COVID 19. For the measurement of flow rates, the wading method was used and using current meters, which were gauged at different points of each catchment. The results of the present investigation show global performance values of 80% for the Coanda screen in the Ronquito river, 74% for Ronco and 80% for Antara. In view of this, the Coanda screens are a good alternative for catchment works in mountain rivers, especially if they reduce the need to include additional works such as sand traps.

**Keywords:** Coanda, Flow, Measurement, Performance, High Mountain Intake Structure.

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