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Development of a six-stage storage pump for unit OSCHENIK 1 at hydropower station Innerfragant

A. Gehrler, J. Erhard, P. Haselbacher, I. Zivkovic, S. Leitner

Abstract

In order to refurbish and upgrade the Innerfragant hydropower station in the Austrian province Carinthia, ANDRITZ HYDRO has been awarded to supply a six-stage storage pump for the ternary pumped storage unit OSCHENIK 1 to KELAG. The presented paper comprises the overall conceptual design, the hydraulic optimization by means of numerical flow simulation (CFD) and model tests, stress and strain calculation of critical components and finally addresses special challenges of the shaft seal.