

Wójtowicz, P., Kotowski, A. Model Testing of Cylindrical Hydraulic Regulators. *Ochrona Środowiska* 2008, Vol. 30, No. 2, pp. 35–41.

Abstract: Upon analysis of the current knowledge regarding vortex devices, a model test methodology for liquid flow vortex regulators has been developed, which is of practical use in environmental engineering and pollution control. The paper presents a choice of test results elucidating the effect of construction parameters (vortex chamber diameter and height, inlet and outlet diameter), as well as operation parameters (air core diameter and spray cone angle), on the performance of flow regulators with cylindrical vortex chambers. The investigated functional relations enable a rational choice of geometrical parameters for the regulators in question. It has been demonstrated that when the operation parameters are taken into account, the description of the discharge coefficient of the devices tested gains in accuracy. The empirical formulae derived are of support to the designer of the constructions for such regulators.

Keywords: Hydraulics, model testing, liquid flow, cylindrical hydraulic regulator, throttling.