

---

# Ways to improve energy efficiency of dynamic pumps on the basis of modern computer technologies

© A.I. Petrov, V.O. Lomakin, S.E. Semenov

Bauman Moscow State Technical University, Moscow, 105005, Russia

*Outlines developed by the E10 Department of Bauman Moscow State Technical University optimization technique of dynamic flow parts of pumps. The results of optimization are shown by an example of the work performed. The main methods used to improve the efficiency and reliability of hydraulic machines are briefly described. The results of verification of the calculated dependences by comparison with experimental data are analysed.*

**Keywords:** *dynamic pumps, optimization, verification, computational fluid dynamic*

**Petrov A.I.** (b. 1973) graduated from Bauman Moscow State Technical University in 1996. Ph.D., Assoc. Professor of the Hydromechanics, Hydraulic Machines and Hydropneumoautomatics Department of Bauman Moscow State Technical University. Author of 37 scientific works, including three teaching books in the field of hydraulic machines. e-mail: alex\_i\_petrov@mail.ru

**Lomakin V.O.** (b. 1985) graduated from Bauman Moscow State Technical University in 2009. Ph.D., Assistant Lecturer of the Hydromechanics, Hydraulic Machines and Hydropneumoautomatics Department of Bauman Moscow State Technical University. Author of 10 scientific works in the field of hydraulic machines, computational fluid dynamics. e-mail: lomakin\_vladimir@list.ru

**Semenov S.E.** (b. in 1966) graduated from Bauman Moscow Higher Technical School in 1989. Ph.D., Assoc. Professor of the Hydromechanics, Hydraulic Machines and Hydropneumoautomatics Department of Bauman Moscow State Technical University. Author of more than 50 scientific works in the field of hydraulic machines. e-mail: a1e10@rambler.ru

---