Comparative Study of the Vibrating Armature and Rotary Vane Pumps

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***Abstract*— The paper refers to the equipment for the espresso production process and the peculiarities of hydraulic systems and pump functioning. A common myth for newcomers to the espresso machine world is that the rotary vane pump, also known as the permanent displacement pumps are superior to the vibrating armature pumps. This is not always true and these two pumps, which are the most popular ones in espresso machines, are compared in this work. The numerical models of them are used in computer simulation to test in working conditions, where the same hydraulic subsystem, which simulates the extraction process, is applied to both pumps. The results of the work can serve as numerical foundation for decision making in espresso machine constructing.**

***Keywords*—coffee machine; single phase induction motor; fixed-displacment pump; vibrating armature pump; hydraulic system.**

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