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On the open/close performance of prosthetic heart valves at high frequencies A. BELTRAN, R. ZENIT, Universidad Nacional Autonoma de Mexico — We report experimental observations of the performance of mechanical and biological prosthetic heart valves. The valves are mounted in a test circular channel conected to a flow system that emulates accelerated human-like conditions. The flow is generated by a high frequencie pulsative pump (in the range of 7 to 18 Hz). The objective of the investigation is to find the treshold conditions for which the open/close performance fails. Preliminary results show that for the mechanical valve the failure starts at 436 pulses/min, while for the biological valve, it starts a failing performance is observed for frequencies higher that 462 pulses/min. Even though these values are far from the heart rate in the human body, we use these measurements to further understand the structure-fluid interaction mechanics of the flow through heart valves.

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