We introduce a simple discrete model of a molecular heat engine. The engine's dynamics is strongly influenced by thermal motion of ambient molecules. Thermodynamic quantities of heat and work observed at mesoscopic scale are thus fluctuating. We focus on the efficiency of the engine, which fluctuates as well. We use analytic methods as well as Monte Carlo simulations in order to examine probability distribution of quantities mentioned above. Exact analytic solution is found in case of short trajectories, while large deviation theory is exploited for long ones. Our interest in the efficiencies' definition is no less than in its values. Properties of the large deviation function stated in literature are demonstrated within the results. Meanwhile we show an example of an engine, where the properties regarded as general are not applied.