# Sistem organic rankine cycle (ORC) dengan turbocharger

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Abstrak

Organic Rankine cycle (ORC) is a modified rankine cycle with working fluids, of organic material (Refrigerant). Refrigeran pentane has low boiling point, therefore ORC can be used in power plant which uses low temperature resources, such as exhausted gases and geothermal wells. Organic Rankine Cycle (ORC) is used to convert heat energy into mechanical energy or electricity generated by a low temperature of the hot sun. The working fluid used is R-22. Simulations performed with an organic Rankine cycle temperature and pressure with cycle tempo program. By programming the simulation cycle Refrop tempo and got the result on the maximum power a turbine to the conditions of the working fluid R-22 to the input turbine T = 46oC and pressure = 13.6 bar can generate 177.5 KW. Turbocharger is one of the alternatives in the energy conversion of the energy of motion into electrical energy. Turbocharger rotation will be used to turn a generator and converts the energy of motion into electrical energy. Pressure required to run the turbocharger is 8 psig with mass flow rate of 25.8 kg / s.