ABSTRACT

Innovation of refrigeration and air conditioning systems has been developed rapidly. One of the innovations contained in the air conditioning system is conditioned chair. This cooling in seat is designed to use at open stadium using vapor compression refrigeration system in which have four main components, such as compressor, condenser, expansion device and evaporator. After cooling chair has been constructed, temperature at inlet and outlet condenser as well as evaporator are recorded. Presure at discharge and suction are also measured by pressure gauge. From the measurement result, performance at the system and eficiens of compressor are analyzed. The designed of chair is then tested and results the cold air at 23,6°C with 0,34 $m^3/_s$ *at flow. After cooling seats has been constructed, the temperature of the condenser, discharge pressure and suction pressure, current, voltage and power of the cooling seat. Then from the parameters obtained will be produced the performance and efficiency of the cooling seats. The novelty obtained from this final project is the application of vapor compression refrigeration system used against the chair so the object (human) as the heat load will have the comfort air by sitting on the seat.*

Keywords: Cooling seat, vapor compression refrigeration system, comfort air