ABSTRACT

Cold storage air blast type in PT. Sekar Bumi II Sidoarjo represent a functioning column to conserve the food product of like fish salmon kept in a condition below its freezing point temperature optimally is kept at temperature -22°C. In order to degrade the temperature of fish salmon until temperature of cold storage needed by a freezing time under its freezing point temperature. In course of the coagulation there are refrigeration burden covering product burden, transmission burden, burden of elektrikal and people burden. To overcome the the refrigeration burden used by system refrigerasi vapour compression the standard by using system refrigeration using refrigerant R-502 and from P - h diagram can be searched of mass flow rate, energy of compressor and COP from system.

From data at PT. SEKAR BUMI II SIDOARJO countable of freezing time required by using plank's equation, countable so that burden of system refrigeration. By using P - h diagram countable mass flow rate, energy of compressor and COP system.

Result from calculation got is freezing time needed by during 10,62 hours, the refrigeration load equal to 77445,103 Btu/hr, with refrigeration rate of equal to 85189,6133 Btu/hr. The value of mass flow rate of refrigerant of equal to 2321,24 lbm/hr, with the energy compressor required equal to 60042,741 Btu/hr (23,598 hp), and COP system of equal to 1,42.