



































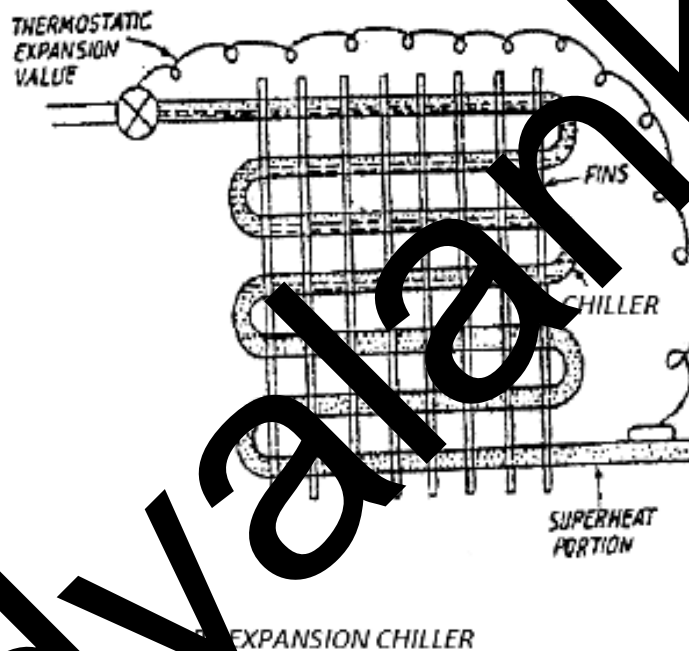


absorbs heat from gas pumped into the pulse tube precooling it, and stores the heat for half a cycle then transfers it back to outgoing cold gas in the second half of the cycle cooling the regenerator. The interior of the regenerator tube is filled with either stacked fine mesh screens or packed spheres to increase its heat capacity. A piston, compressor or similar pressure wave generator is attached to the warm end of the regenerator and provides the pressure oscillations that drive the refrigeration. Helium is used as the working gas due to its monotonic ideal gas properties and low condensation temperature. In systems with a base temperature below 2K the He3 isotope is used.

Q.6(e) Explain working of dry expansion type chillers with sketch. [4]

(A) Dry expansion chiller:

Dry expansion chiller is a simple tube type chiller. In dry expansion chiller liquid refrigerant from the receiver is fed by expansion valve to the chiller. The expansion valve controls the rate of flow of liquid refrigerant in such a way that all the liquid refrigerant is vaporized by the time it reaches at the end of the chiller coil or the suction of the compressor. The vapor is also superheated to some extent. The rate of refrigerant flow depends on load, it increases when load increases and vice versa.



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