GOVERNMENT ENGINEERING COLLEGE, DAMAN
DEPARTMENT OF MECHANICAL EGINEERING
REFRIGERATION AND AIR CONDITIONING LABORATORY

VAPOR COMPRESSION REGRIGERATION SYSTEM

Basic Details: -

- Compressor - Hermetically sealed, having the capacity of 1/3-ton refrigeration. (approx)
- Condenser - Finned tube, air cooled with fan.
- Thermostatic expansion valve provided with solenoid valve.
- Capillary tube of suitable length, to demonstrate operation.
- Static Evaporator - Cooling coil immersed in water and a heater of suitable capacity

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VAPOR ABSORPTION TEST RIG

Basic Details: -

- Gross volume: 40 liters
- Refrigerant: water, ammonia, hydrogen
- Generator: electrically heated
- Condenser: natural convection type
- Evaporator: natural convection type
- Material of construction: m.s.
- Multichannel digital temperature indicator.
- Evaporator variable load
- Supply: 230 volts, 50 hz, 1 ph
- Energy consumption:1.07 kwh per 24 hrs

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PSYCHROMETRIC PROCESS APPRATUS

Basic Details: -

Dimensional Parameter

- Hermetic compressor, having the capacity of 2/3 ton of refrigeration (approx.) using R- 22 refrigerant.
- Pressure gauges for high and low pressure.
- Press stat (i.e. high- and low-pressure cut-out)
- Thermometers for temperature measurement at various points in the cycle.
- Energy meter for compressor input measurement.
- Condensate measuring arrangement.

Heating circuit –

- Finned air heaters with stepped input control provided with energy meter for input measurement. Max. heating capacity 1500 Kcal/hr.
- Steam generator and injector for humidification of air.

All above components are connected to a duct of size 200mm. x 200mm. in which air flow is generated by axial flow fan.

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MECHANICAL HEAT PUMP

Basic Details: -

- Compressor - Hermetically sealed, having capacity of 1/3 ton of refrigeration (approx). using R-12 refrigerant.
- Condenser & Evaporator - Continuous flow water circulated coils with glass wool insulation outside.
- Thermostatic expansion valves of suitable capacity.
- Rotameters for water flow measurements -2 nos.
- Wattmeter for compressor input measurement.
- Thermometers for measurements of temperature at 4 nos. points in the cycle
- Pressure gauges for condensing & evaporating pressure (i.e. high & low pressure)