

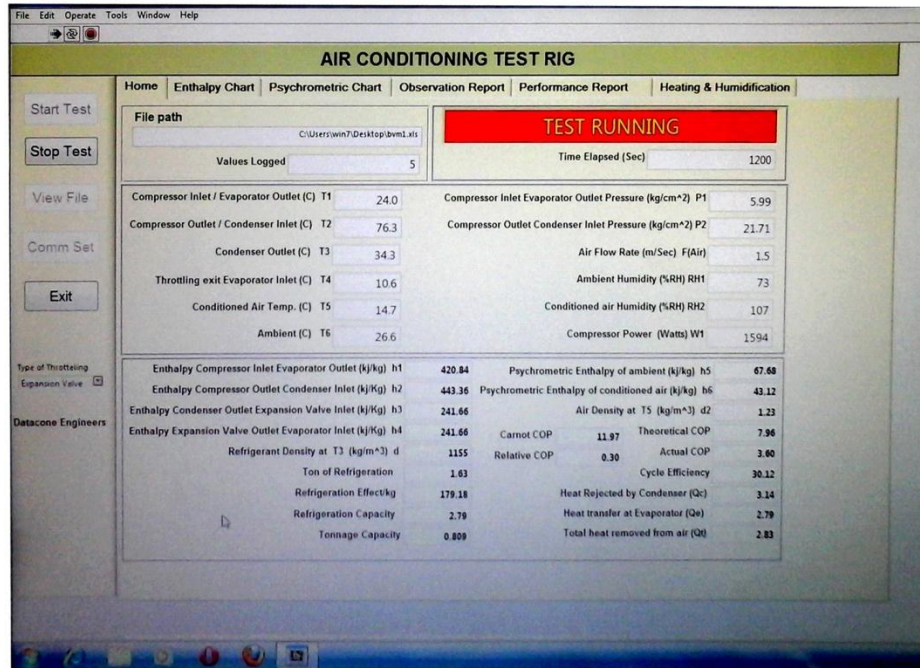
67. COMPUTERISED AIR CONDITIONING CYCLE TEST RIG



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**AIR CONDITIONING TEST RIG**

Home | Enthalpy Chart | Psychrometric Chart | Observation Report | Performance Report | Heating & Humidification

Start Test

Stop Test

View File

Comm Set

Exit

Type of Throttling: Expansion Valve

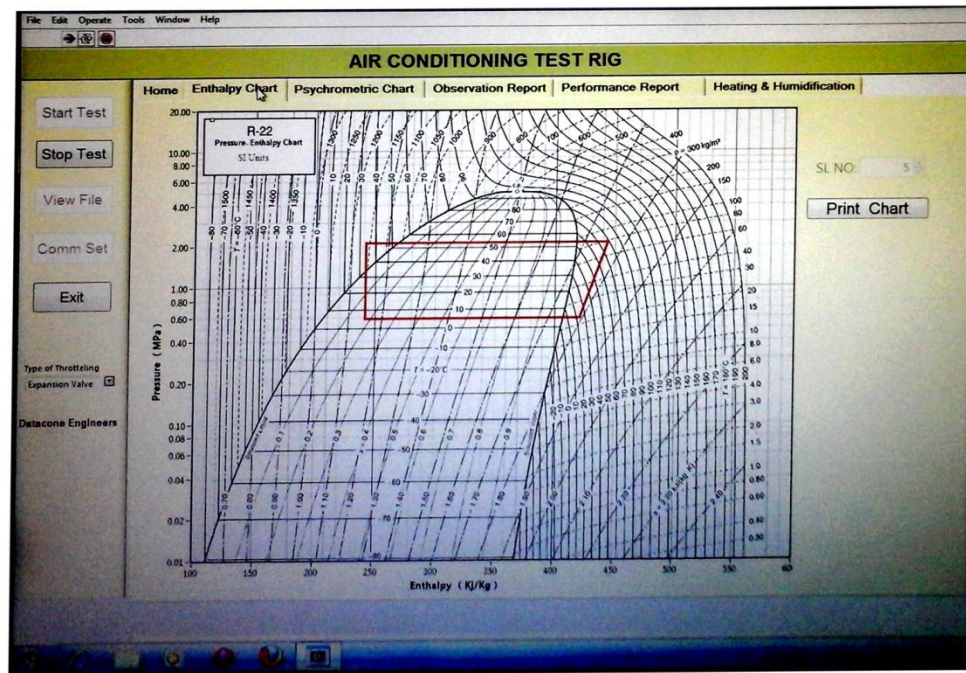
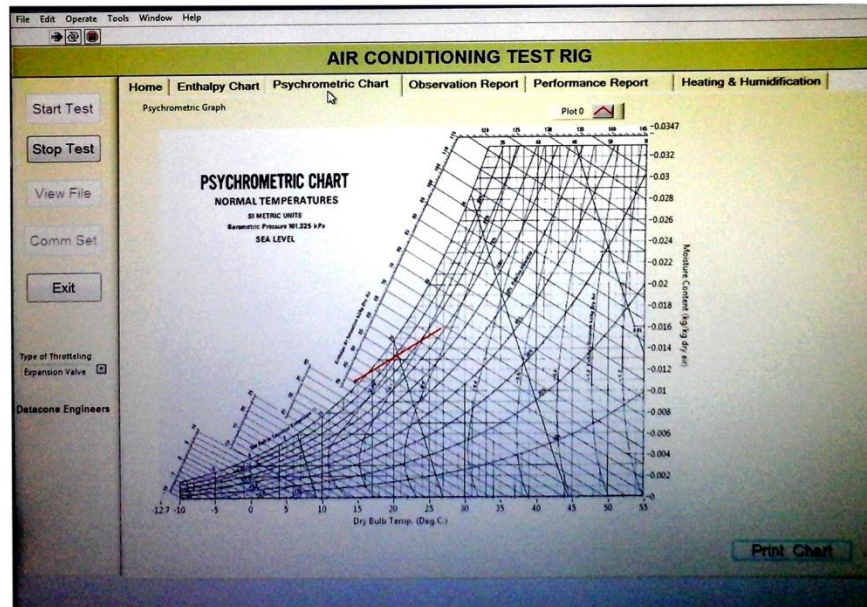
Datacone Engineers

SL NO	Time Elapsed (sec)	T1	T2	T3	T4	T5	T6	F(Air)	P1	P2	W1	W2	RH1	RH2	Type of Throttle
1	0	23.30	59.10	32.20	7.60	14.40	26.10	1.10	5.65	20.40	1531.00	0.00	77.00	107.00	Expansion Valve
2	300	23.30	66.80	32.90	8.50	13.60	25.90	1.30	5.99	20.87	1553.00	0.00	75.00	107.00	Expansion Valve
3	600	23.50	70.80	33.40	9.50	14.10	26.00	1.50	5.95	21.18	1563.00	0.00	74.00	107.00	Expansion Valve
4	900	23.70	73.20	33.90	10.40	14.40	26.30	1.60	5.95	21.42	1575.00	0.00	74.00	107.00	Expansion Valve
5	1200	24.00	75.70	34.10	10.30	14.50	26.50	1.40	5.97	21.59	1591.00	0.00	73.00	107.00	Expansion Valve

Show in Excel

T1, T2, T3, T4, T5, T6: Temperatures in Deg.C  
 F(Air): Flow in m/sec  
 P1, P2 in kg/cm<sup>2</sup>  
 W1, W2 in kJ/kg





## TECHNICAL DESCRIPTION :

The equipment consists of a hermetically sealed compressor, air cooled condenser, blower unit to force air through a duct mounted on frame, an evaporator adopted in the duct, heaters of suitable capacity are clamped in the duct.

The power to the heater can be controlled & the air is warmed while it passes over the heater. The mass flow rate of air in the duct can be varied by arrangement provided on the blower unit. There is arrangement provided on the blower unit. There is an arrangement for humidification achieved by introducing fog in the duct. The relative humidity of air at inlet & outlet can be measured by a humidity sensor. An expansion valve is provided in the circuit for throttling the gas from HP to LP. There are two gauges for measurement of high & low pressure. Four thermocouples are placed to measure the temperature of gas at the evaporator & condenser, with help of digital temperature indicator. HP/LP cut out is provided for the safety of compressor. The duct is insulated from out side to avoid the heat loss.

The control panel consists of Main switch, Compressor switch, switch for solenoid or capillary , Switch for heater , switch for for, voltmeter, ammeter , Pressure Indicator , Temperature Indicator, Power Indicator, Velocity Indicator , Humidity Indicator.etc. and Output for RS.232.

The refrigeration circuit & duct are mounted on a fabricated frame.

**DIMENSIONS AND WEIGHT :**

Size :3 m.(L)x 1.5 m(W) X 1.5m ( H )

Weight :Approx. 160 Kg

**SERVICE REQUIRED :**

230 v Ac Supply 50 Hz

**SCOPE OF DELIVERY:**

1. Experimental Setup
2. Instructional Manual
3. Data logging Facility