

# REFRIGERATION TRAINER SYSTEM

Model Number : GOTT-RLT-0106



## DESCRIPTION

Refrigeration Laboratory Trainer (Model: GOTT-RLT-0106) has been designed to help students to study the performance of a vapour compression cycle under various conditions of evaporator load and condenser pressure. Student will be able to monitor and control the unit just as if they are controlling and monitoring an industrial refrigeration and air conditioning plant. The unit is a floor standing unit consists of the following main components:

- |                                       |   |
|---------------------------------------|---|
| 1) a refrigerant compressor           | 2) a water cooled refrigerant condenser   |
| 3) an expansion valve with thermostat | 4) an electrical variable load evaporator |

All of the above items are mounted on an epoxy coated steel bench with vertical backpanel. Temperature, pressure and flow values are conveniently displayed. The unit is also protected against excessive pressure and over heating. At the same time a circuit breaker installed within the unit will protect the unit from any possible current leakage.

## EXPERIMENTAL TOPICS

- Vapour Compression Cycle diagram at various condition
- Energy balance for the refrigerator
- The effect of different condensing temperature on refrigerator duty or cooling ability; on refrigerator performance coefficient.
- The effect of different motor power on performance coefficient
- Overall heat transfer coefficient for the condenser cooling coil.
- Performance of the thermostatic expansion valve.
- The effect of different condensing temperatures on the heat delivered to the cooling water
- The effect of different condensing temperature on performance coefficient as a heat pump
- Power input study

A fully instrumented unit for the study of vapour compression cycle using refrigerant R134a comes with electrically heated evaporator, thermostatic expansion valve, water cooled condenser and belt driven compressor. All necessary instruments are provided for measurements of temperatures, evaporator and condenser pressures, cooling water and refrigerant flowrates, and evaporator and motor power inputs.

- Evaporator  
1.5 kW variable load electrical heater.
- Compressor  
1 hp belt driven type.
- Condenser  
water cooled by internal cooling coil.

## SPECIFICATIONS

- Expansion Valve thermostatically controlled
- Instrumentations  
Pressure for refrigeration cycle, refrigerant and cooling water flowrates, evaporator and compressor motor power input, and temperatures at various locations. The motor torques is determined by means of load cell.
- Safety  
Condenser pressure and evaporator heater temperature is limited by automatic cut-outs.

## REQUIREMENTS

Electrical Supply : 415VAC/50Hz/3-

phase/32Amp

WaterSupply:

5LPM @ 20m head

## Manuals :

All manuals are written in English with full Description of theory, experimental procedures and typical experimental results.

## General Terms :

- (1) Accessories will be provided where applicable.
- (2) Manual & Training will be provided where applicable.
- (3) Design & specifications are subject to change without notice.
- (4) We reserve the right to discontinue the manufacturing of any product.

## Warranty :

2 Years

## ORDERING INFORMATION :

ITEM	MODEL NUMBER	CODE
REFRIGERATION TRAINER SYSTEM	GOTT-RLT-0106	955-106

\*Proposed design only, subject to changes without any notice.