



### Features

- Designed to demonstrate Change of State of Refrigerant in Compression Refrigeration Cycle.
- Facility to simulate variable Heat load conditions & its effect on performance of Cycle. +
- Comprehensive Instrumentation Panel with all necessary measuring instruments.

Tesca Changes in the State of Refrigeration Cycle Trainer 32416 is designed to demonstrate working of Vapor Compression Refrigeration Cycle & change of phase of refrigerant during the cycle.

The trainer uses Hermetic Compressor, Condenser, Expansion Device & Evaporator. To visualize phase change of refrigerant; the condenser & evaporator are shell & coil type with transparent glass shells. The refrigerant flows through the shell & water flows the copper coils. CFC free refrigerant is used in the system & is pre-charged in the system.

Instruments to measure Cycle Pressure, Temperatures at different points, Power Consumption, Heater Load are fitted on the Instrument panel. Flow of refrigerant & water is measured using Rotameter fitted with calibrated scale. High & Low Pressure cutoff switch & thermostat are provided as safety devices.

The entire setup is mounted on a sturdy steel frame made of Mild Steel Tubes & Sheets. The entire frame & panel are powder-painted for durability.

Detailed Operation & Maintenance Manual is provided along with the trainer.

### Specifications

Compressor	:	Hermetically Sealed Compressor, Capacity – 1/4 TR
Condenser	:	Shell & Coil Type Condenser, Transparent Shell
Expansion Device	:	Capillary Tube
Evaporator	:	Shell & Coil Type Condenser, Transparent Shell
Accessories	:	Refrigerant Lines, Dryer Filter, Suction Line Accumulator

Note: Specifications are subject to change.

### **Tesca Technologies Pvt. Ltd.**

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Digital Wattmeter	:	0 – 1.2 kW for Compressor
Pressure Gauges	:	-1...1,5bar
Temperature Sensor	:	RTD PT-100 Sensors for temperature measurement
Temperature Indicator	:	8 Channel Digital Indicator, Range - 20...200°C Resolution 0.1 C
Glass Tube Rotameter	:	0-70 LPH
Water Flow Meter	:	2x 0...800cm <sup>3</sup> /min
<b>Thermostat</b>		
Base Frame	:	Made of M.S. Square Tubes & Sheets, welded & powder coated for long life.

### Experimental Capabilities

- To demonstrate Vapor Compression Refrigeration Cycle.
- To demonstrate change of phase of Refrigerant in Cycle.
- To draw refrigeration cycle on P-h Diagram & calculate enthalpy at different points.
- To calculate COP of Refrigeration Cycle.

### Options

- Data Acquisition System for Refrigeration Trainer
- Gas Changing Unit.
- Set of Refrigeration tools.
- Refrigerant Leak Detector.

### Required Services

- Electric Supply 230 V AC, 6 A, Single Phase, Earthed.
- Tap Water & Drainage

Note: Specifications are subject to change.

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