

# REVERSE CYCLE REFRIGERATION and AIR CONDITIONING UNIT

808



Year 1  
study

## Features

- Air Cooled and Water Cooled Condenser
- Forced Air and Static Evaporator with dual temperature operation
- Optional Student Tool Kit, Test and Service Equipment and Maintenance and Student Practice Package.
- Comprehensive Instruction manual Contains Course Notes, Instruction Notes and Student Example Worksheets
- Demonstrates Common Faults and Effects on the System

## Description

The 808 Reverse Cycle refrigeration and Air Conditioning Training Unit is designed specifically for use by students of refrigeration and air conditioning. The unit uses components that should be familiar to students who will be undertaking courses that will enable them to install and maintain refrigeration and air conditioning equipment. Like the equipment that students will ultimately train to maintain the 808 is not equipped with a large amount of instrumentation. This is intended to promote the use of service gauges and hand held thermometers that the students will have to use in everyday maintenance work. The 808 is equipped with a high pressure and low pressure gauge for convenience and demonstrates the use of both an air cooled and /or a water cooled

condenser and the use of reverse cycle operation for both evaporator defrosting and reversible air conditioning(heat pumps). The components are clearly laid out on a sheet metal panel for ease of visual understanding by students. There are a number of hand valves on the unit that allow isolation of parts of the circuit and the selection of 4 different types of expansion device. Two different evaporators are fitted, one is a typical forced (fan driven) evaporator and the other uses natural convection. A suction pressure regulator allows students to see the use of two evaporators, on one compressor, with the evaporators operating at different pressures (and hence temperatures). This is achieved with the use of a suction pressure regulator on the forced air evaporator. This manual is written primarily for use by the instructor who, it is assumed, is familiar with the aspects of refrigeration that is being demonstrated. The manual gives details of the components of the 808 operation of the unit and suggested demonstration procedures. However it is not written to be read in isolation by the students as a self contained teaching manual.

**Related Laws/Applications**

- Refrigeration
- Reverse Cycle operation
- Air cooled condensor
- Water cooled condensor
- Forced Air evaporator
- Static Evaporator
- Air conditioning

**Learning capabilities**

- The Automatic (Constant Pressure) Expansion Valve As A Flow Control, And The Basic Refrigeration Cycle
- The Internally Equalised T.E.V.
- The Externally Equalised T.E.V.
- The Evaporator Pressure Regulator
- The Capillary As A Flow Control
- Dual Temperature Operation
- Reverse Cycle Operation
- Excess Discharge Pressure
- The Water Cooled Condenser

**Technical Specification**

- High starting torque motor with built-in:
  - - winding protector
  - - air-cooled condenser and liquid receiver
  - - Remote Water-cooled Condenser
- Forced Air Evaporator: Coil block: 3/8" O.D. copper tube with aluminium fins.
- Flow Controls:
  - - Automatic expansion valve.
  - - Internal equalised thermostatic expansion valve.
  - - External equalised thermostatic expansion valve.
  - - Selection by hand wheel valve.
- Static Evaporator:
  - - Coil block as for Forced Air Evaporator.
  - - Flow Control:
    - - Capillary tube with separate filter drier.
    - - Selection by hand wheel valve.
- Reverse Cycle Operation:
  - - Evaporator pressure regulating valve for dual-temperature operation.
  - - High pressure switch.
  - - Low pressure switch.
  - - Compound Gauge.
  - - High Pressure Gauge.
  - 3 x Sight Glasses.
  - 4 x Check Valves to control direction of refrigerant flow.
  - 9 x Hand valves
- An electrical control box is mounted on the back panel and includes:
  - - Indicators/warning lamp
  - - on/off evaporator and condenser fan and reverse cycle contactor and overload
  - - residual current device for protection against earth leakage.

**Recommended Ancillaries**

- TKB
- TSE

**What's in the Box?**

- 1 x 808
- 1 x Transformer (115V only)
- 1 x Drain hose
- Instruction manual
- Packing list

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**Weights & Dimensions**

- Weight: 115 kg
- Weight: 119 kg (115V version)
- Length: 1340mm
- Width: 640mm
- Height: 1630mm

**Essential Services**

- 13Amp, 220-240 Volts, Single Phase, 50Hz (With earth/ground).
- 26Amp, 110-120 Volts, Single Phase, 60Hz (With earth/ground).

**Ordering information**

To order this product, please call PA Hilton quoting the following codes:

808/230

808/115

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