



# *Water Chiller Training Unit*

**812**



- ***Fully Operational Water Chiller With Cooling Load***
- ***Evaporator Pressure Regulator to Demonstrate Non-Freeze Cooling***
- ***Optional Data Acquisition Available.***
- ***Optional Student Tool Kit, Test and Service Equipment***
- ***Two year Warranty.***



## ***Introduction***

The Water Chiller Training Unit 812 is a fully operational, water chiller, which enables the student to adjust and investigate a typical water cooler operating under load, either with or without evaporator pressure regulation.

The cooling of pure water requires that the evaporator surface temperature does not fall below 0°C or the system will freeze and may result in damage. This unit allows students to safely explore the parameters affecting evaporating pressure without danger to the operator or equipment.

As with all Hilton vocational equipment all of the components are clearly arranged on a panel allowing easy identification.

Components include:

- Hermetic compressor
- Water cooled condenser with adjustable pressure control
- Liquid receiver
- Water cooling evaporator
- Adjustable evaporator pressure regulation
- Suction accumulator
- Cooling load, adjustable in steps of 1.0 and 0.5kW
- Adjustable cooling water flow
- Pressure, temperature and flow rate measurement.
- Control panel that will accept optional computerised data acquisition.

## ***Description***

The 812 is one of a range of trainers designed to provide practical training in the fields of Refrigeration and Air Conditioning.

Each trainer has been carefully designed to provide instruction in specific topic areas that trainees are required to study as part of most Refrigeration and Air Conditioning courses.

The unit is mounted on a steel frame with stainless steel panels and comprises an hermetic compressor with water cooled condenser, liquid receiver, water cooling evaporator with adjustable pressure regulator. A pump circulates the cooled water at an adjustable flow rate through a tank with individually switched heaters that load the refrigeration system.

Instrumentation includes condenser and suction pressure gauges, evaporator pressure (service gauge), digital temperature indicator with 10 way selector switch, evaporator and condenser flow rate measurement, optional refrigerant flow meter and optional computerised data acquisition system for all parameters including compressor current.

All the controls and the high and low-pressure switches are adjustable by the student to enable advanced studies in the control of vapour compression refrigeration equipment.

A standard Student Tool Kit and Test and Service Equipment Package are also available as optional extras

Further details available on request.

**Student Tool Kit**



**Test & Service Equipment**





## Specification

### DETAILED

The unit is mounted on a steel framework, with stainless steel base and back panels and incorporates:-

- Hermetic compressor
- Water-cooled condenser.
- Liquid receiver
- Adjustable condenser pressure regulator
- Water-cooling evaporator
- Thermostatic expansion valve
- Adjustable evaporator pressure regulator with detachable service gauge.
- Suction accumulator.
- Water tank with individual switchable loads of 1kW, 1kW and 0.5kW
- Water circulating pump with flow control.

Instrumentation includes:

- Digital temperature indicator with 10 way selector switch.
- Condenser and evaporator water flow meters.
- Condenser and suction pressure gauges and detachable evaporator pressure gauge.
- Optional refrigerant flowmeter.

Control panel including:

- Overload protection
- Contactor
- Earth leakage protector
- Optional computerised data acquisition system.

### Dimensions (Approx)

Height: 163 cm Depth: 64 cm  
Width: 134 cm Weight: 164kg

### Services Required

#### Electrical

Either: A: 15Amp.220-240 Volts, Single Phase, 50Hz (With earth/ground).

#### OR

B: 30Amp.110-120 Volts, Single Phase, 60Hz (With earth/ground).

### Optional Equipment

- Student Tool Kit
- Test And Service Equipment
- Refrigerant flow meter
- Computerised data acquisition system

## Ordering Information

Order as: Water Chiller Training Unit 812

### Electrical Specification

Either: A: 15A 220-240 Volts, Single Phase 50Hz  
(With earth/ground).

#### OR

B: 30A 110-120 Volts, Single Phase 60Hz  
(With earth/ground).

### Language

Either: English, Spanish or French

### Shipping Specification

Net Weight: 164 kg  
Gross Weight: 218 kg.  
Packing Case Dimensions: 143 x 72 x 126 cm  
Packing Case Volume: 1.297m<sup>3</sup>

### Also Available on Request

- Further detailed specification
- Additional copies of instruction manual
- Recommended list of spares for 5 years operation

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