Product name:	Product code:
Vapour Compression Refrigeration Unit	EEZ0023



Description

Vapour Compression Refrigeration Unit

Technical specification

– 1x Variable area flowmeter measuring refrigerant flowrate
– 1x DC Current shunt measuring current to the compressor motor

- Supplied complete with large water reservoir to isolate the process from fluctuations in temperature or pressure in the mains water supply
- Comprehensive instruction manual supplied

Features:

- Complete system enabling demonstration of the vapour compression refrigeration cycle
- Computer controlled with automatic recording of measured and calculated variables using a PC
- Hermetically sealed rotary compressor with wide speed range can be varied by the operator
- Condenser and evaporator both use plate heat exchangers with water as the heat transfer medium enabling a full energy balance to be carried out while varying the operating conditions on both sides of the compressor
- Overall performance of the system is calculated and displayed continuously enabling the effect of changes in the system to be evaluated
- Instrumented with electronic sensors measuring temperatures throughout the process, pressure on both sides of the compressor and independent water flowrates through the condenser and evaporator
- Bourdon type gauges indicate the pressure and corresponding refrigerant saturation temperature on both sides of the compressor independent from the electronic systems
- Variable speed pumps supply water at stable temperature and pressure from a large reservoir to the condenser and evaporator eliminating random fluctuations

Vapour Compression Refrigeration Unit

Specification:

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- Complete refrigeration system enabling demonstration of the vapour compression refrigeration cycle
- Fully instrumented to enable complete analysis of the processes involved and calculation of the changes in performance with operating conditions
- Computer controlled system with automatic recording of process variables using an integral USB interface
- Hermetically sealed rotary compressor driven by DC motor with three phase BLDC variable speed drive
- Compressor speed under computer control with a wide range of operation from 2000 to 4400 RPM
- Real time display of superheat calculations
- Real time display of Coefficient of Performance
- Energy transferred to the evaporator and from the condenser measured independently on the service side of the process
- Measurement sensors include:

– 9x Thermistor sensors measuring temperatures throughout the system
– 2x Turbine type flow meters measuring flow of water through the condenser and e vaporator
– 2x Electronic sensors measuring pressures before and after the compressor
– 2x Bourdon type refrigeration pressure gauges (with scale indicating equivalent refrigerant saturation temperature)