Product name:	Product code:
Thermo Electric Heat Pump Apparatus	Transfer Lab0016

Description

Thermo Electric Heat Pump Apparatus

Technical specification

- The heat extracted is transferred to the hot reservoir, together with heat generated by the electrical supply to the peltier device. This heat is removed by a water-cooled heat exchanger. The flow rates can be adjusted to provide a range of operating temperatures.
- The Peltier device can also be used to generate a small quantity of electric power when a temperature difference is applied. This effect can also be demonstrated. Instrumentation is provided to measure the temperatures of the blocks, the electric power supplied to the Peltier device, the cooling water flow rate and the cooling water temperature rise. The heater power is measured , and so it is possible to establish a complete energy balance for the system.

Thermo Electric Heat Pump Apparatus

Specification of Thermo Electric Heat Pump

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- Small-scale accessory designed to demonstrate the use of a Peltier device to transfer heat across surfaces
- Comprises a Peltier device, a heater, and a water-cooled heat exchanger
- Heat transfer rates up to 68 Watt
- Heater power, Peltier drive and cooling flow rate all fully electronically adjustable under computer control.
- Measurement of cooling water temperatures and flow to allow an overall energy balance
- The accessory is mounted on a PVC base plate, which is designed to stand on a bench and connect to the heat transfer service unit without the need for tools.

Technical Details of Thermo Electric Heat Pump

- The thermo-electric Peltier device is positioned in a heat transfer path, between two copper blocks, extracts heat from one block (cold reservoir) and transfers it to the other block (hot reservoir). In order to measure the heat transfer rate, the cold reservoir is fitted with an electric heater, powered by the. By varying the electric power into the system, the behaviour of the system at different operating points and temperatures can be established.