

Abstract

A liquid temperature-control apparatus and method. The liquid temperature-control apparatus comprises: a circulating cooling unit for providing thermal energy and a cooling capacity for an object to be cooled; a circulating coolness application unit connected to the circulating cooling unit and used for circularly providing coolness to the object to be cooled; a heat exchange unit for carrying out heat exchange between the circulating cooling unit and the circulating coolness application unit; and a temperature detection and control unit for monitoring the temperature of the circulating cooling unit and that of the circulating coolness application unit. With the most fundamental circulating cooling unit, there is no need to weld and add any component to the circulating cooling unit, there are less welding spots in the circulating cooling unit, and there is no risk of refrigerant leakage, such that the reliability is relatively improved.