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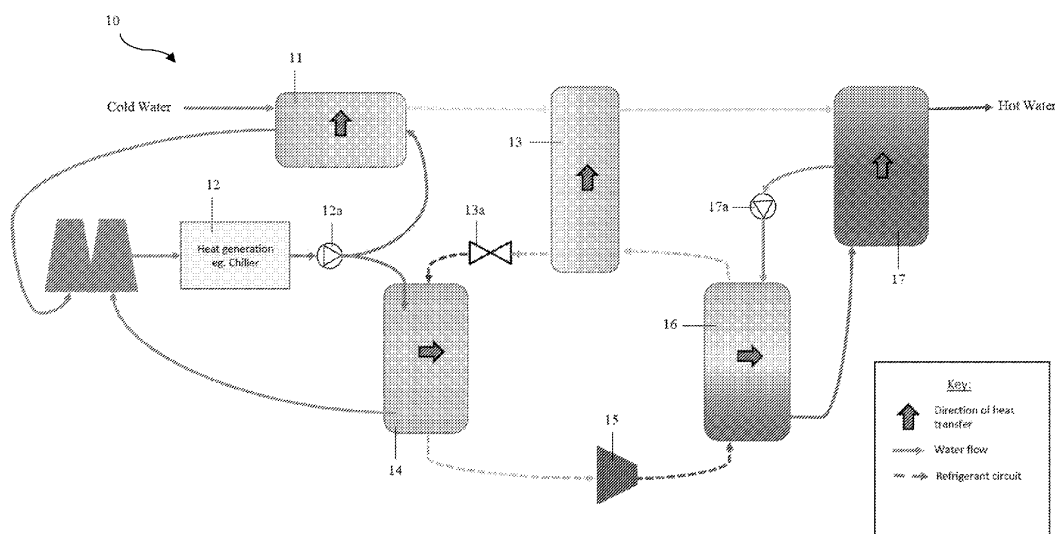
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(54) Title: HEATING SYSTEM



(57) Abstract: The present invention relates to a heating system (10), more preferably, a domestic hot fluid supply system. The heating system (10) is designed for heat recovery from a liquid heat source with a temperature higher than that of the ambient temperature using a combination of a passive heat exchanger and 2 stage heat pump for improved consistency of hot fluid outlet temperatures, higher efficiency and increased reliability. The heating system (10) separates the heating process into a plurality of preheat stages. The heat pump comprises an evaporator (14) coupled to a heat generating apparatus (12) via a first pump (12a) to transfer heat to preheat the fluid flowing through a first heat exchanger (11) to a temperature ranging from 31°C to 33°C in the typical South East Asia climate. A sub-cooler (13) is used to further pre-heat the incoming fluid as the second stage to a temperature range from 40°C to 45°C using the residual sensible heat after the condensing step in the condenser (16). A condenser (16) coupled to a second heat exchanger (13) to further heat up the preheat fluid discharged from the first heat exchanger (11) to a temperature ranging from 40°C to 45°C, and the condenser (16) further coupled to a storage tank (17) to further heat up the preheat fluid discharged from the second heat exchanger (13) to a temperature

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ranging from 58°C to 85°C. Heat is transferred through the heat pump from the heat generating apparatus in order for the heat pump to maintain the temperature of the fluid flowing through the second heat exchanger (13) and fluid storing in the storage tank (17).