

METHOD AND APPARATUS FOR DEHUMIDIFYING AIR**ABSTRACT OF THE DISCLOSURE**

Disclosed is a method and apparatus for dehumidifying air. The method comprises the steps of (i) contacting a dehumidification element which reversibly absorbs moisture in the air and which is contained in a housing of a dehumidification apparatus, with the air to be dehumidified; (ii) discharging air to the outside of the housing, which air was dehumidified by the contact with the dehumidification element; (iii) regenerating the dehumidification element by contacting the dehumidification element after absorbing the moisture in the air with heated air for regeneration of the dehumidification element so as to remove the moisture from the dehumidification element; (iv) reusing the dehumidification element in the step (i), which was regenerated by the step (iii); (v) cooling the air for regeneration of the dehumidification element after removing moisture from the dehumidification element in the step (iii) so as to condense the moisture, and removing the generated water from the air for regeneration of the dehumidification element; and (vi) circulating the air for regeneration of the dehumidification element from the step (v) from which the water generated by condensation of moisture was removed, to the step (iii); the air for regeneration of the dehumidification element is not substantially mixed with the air to be dehumidified or with the dehumidified air.

Figure 5