

Title (en)

A fan coil air conditioning system, a fan coil unit, and a method of controlling a fan coil air conditioning system

Title (de)

Klimaanlage mit Gebläsekonvektor, Gebläsekonvektoreinheit und Verfahren zur Steuerung einer Klimaanlage mit Gebläsekonvektor

Title (fr)

Système de climatisation d'échangeur ventilé, unité d'échangeur ventilé et procédé de contrôle d'un système de climatisation d'échangeur ventilé

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Application

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Priority

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Abstract (en)

According to a first aspect of the invention there is provided a fan coil air conditioning system 1 comprises at least one fan coil unit 3, the fan coil unit 3 comprising a heat exchanger 9, at least one fan 19, a return air inlet 15 and a conditioned air outlet 17 for connection to a conditioned air delivery duct 5 in a building. The heat exchanger 9 comprises a cooling water connection 11A for connecting to a source of cooling water, and a heating water connection 13A for connecting to a source of heating water. The cooling water connection 11A and the heating water connection 13A are each provided with a respective motorised regulating flow valve 21, 23. The fan 19 is operative to draw air from the air inlet 15, through the heat exchanger 9 to condition the temperature of the air, the temperature being determined by the flow of cooling or heating water through the heat exchanger 9, and to pump the conditioned air through the conditioned air outlet 17. The system 1 further comprises an air temperature sensor operative to generate an air temperature signal indicative of the temperature of the air returning to the fan coil unit 3, and fluid temperature sensors 29 operative to generate fluid temperature signals indicative of the temperature of the fluids at the heat exchanger 2. The system 1 further comprises a controller operative to receive the air temperature signal and the fluid temperature signals, and also a duty signal indicative of the temperature and volume flow rate of the conditioned air required for the conditioned air outlet 17 in question. The controller subsequently generates a valve control signal to control the motorised flow valves 21, 23 in dependence upon the fluid temperature, air temperature and duty signals such that the flow rate of cooling and/or heating fluid and the flow rate of air through the heat exchanger 9, match the conditioned air duty required.

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Citation (search report)

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