Title (en)

NATURAL CIRCULATION-TYPE HOT WATER STORAGE HEATER.

Title (de)

WARMWASSER-SPEICHERERHITZER MIT NATÜRLICHER ZIRKULATION.

Title (fr)

DISPOSITIF DE CHAUFFAGE A STOCKAGE D'EAU CHAUDE DU TYPE A CIRCULATION NATURELLE.

Publication

EP 0034186 A1 19810826 (EN)

Application

EP 80900988 A 19801215

Priority

JP 6859079 A 19790601

Abstract (en)

A natural circulation-type hot water storage heater for storing hot water obtained from a water storage tank (as water or hot water) at the bottom through a first circulation pipe, a heat exchanger and a second circulation pipe into a tank. A thermovalve is mounted within the second circulation pipe on the downstream side of the heat exchanger to vary its opening area in response to the hot water temperature to thereby substantially maintain constant the temperature of the hot water from the heat exchanger. As a result, the temperature distribution at the time the water is boiling in the water storage tank is rendered substantially constant instantaneously so as to increase the effective hot water storage amount. In addition, the hot water temperature is held constant without fluctuation regardless of the repetitive ON and OFF operation of a burner, and will not fluctuate even if the burner is turned ON when hot water is supplied. Instead, the time during which the hot water is continuously supplied at constant temperature is prolonged to provide an effective hot water storage amount which is greater than the inside volume of the water storage tank.

Abstract (fr)

Un chauffe-eau de stockage d'eau chaude du type a circulation naturelle est destine a stocker de l'eau chaude obtenue a partir d'un reservoir de stockage d'eau (eau ou eau chaude) au fond par un premier tuyau de circulation, un echangeur de chaleur et un second tuyau de circulation dans un reservoir. Une vanne thermo electrique est montee dans le second tuyau de circulation du cote aval de l'echangeur de chaleur pour modifier sa section d'ouverture en reponse a la temperature de l'eau chaude de maniere a maintenir sensiblement constante la temperature de l'eau chaude provenant de l'echangeur de chaleur. Il en resulte que la distribution de temperature au moment ou l'eau bout dans le reservoir de stockage d'eau est rendue sensiblement constante instantanement de maniere a augmenter la quantite effective d'eau chaude stockee. De plus, la temperature de l'eau chaude est maintenue constante sans fluctuation independamment du fonctionnement repetitif arret/marche d'un bruleur, et ne subit pas de variation meme si le bruleur fonctionne lorsque l'eau chaude est fournie. Au contraire, le temps pendant lequel l'approvisionnement continu en eau chaude est assure a temperature constante est prolonge permettant ainsi d'avoir une quantite effective d'eau chaude superieure au volume interne du reservoir de stockage d'eau.

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F24H 9/20

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CPC (source: EP US)

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