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ABSTRACT

A heat treatment device according to the present invention comprises a handling chamber (1) including a carriers feed in/out opening (8) for carriers holding plural sheets of objects to be treated parallelly vertical, and housing a vertical heat treatment furnace (2) for heat treating the objects to be treated; posture changing device (9) disposed in the handling chamber (1) and near the carriers feed in/out opening (8) for swinging the carriers near the carriers feed in/out opening (8) of the handling chamber (1) on a rotational center (X) into a territory of lower sides of the carriers to change the posture of the objects to be treated from the vertical position to the horizontal position; a carriers storage unit (49) disposed above the posture changing device (9) and being capable of storing a plural number of the carriers (7) whose posture has been changed; conveyor (51) for conveying the carriers between the carriers storage unit (49) and the posture changing device (9), and the side of the heat treatment furnace (2); and transfer device (52) for transferring the objects-to-be-treated to/from an objects-to-be-treated holder (5) for loading and unloading into/out of the heat treatment furnace (2) the carriers conveyed to the side of the heat treatment furnace (2). The posture changing device (9) changes the posture of the carriers so that the carriers (7) are swung down on the rotational center (X) to a territory of sides of the carriers (7) so that the objects to be treated (W) have the posture changed from the vertical position to the horizontal position, whereby the carriers (7) can have the postures changed along a swing track of a minimum radius with small bulge amounts and a minimum moving amount. Accordingly the posture change of the carriers (7) is quick, and a small space can allow the carriers (7) to have the postures changed without interference with the conveyor. A conveying distance and a conveying time for conveying the posture changed carriers (7) to the upper storage unit (49) can be reduced, and the

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heat treatment device (2) can be smaller-sized and have improved processing efficiency.