A B S T R A C T

A vertical heat-processing apparatus (1) includes a vertical heat-processing furnace (2) having a furnace port (3), a lid (5) movable up and down to open and close the furnace port, and a rotation mechanism (15) disposed on the lid to rotate a holder (13) that holds a number of target substrates (W). The rotation mechanism (15) includes a rotary shaft (16), and a support unit (19) that supports the rotary shaft (16) rotatably through a bearing (17) and sealing member (18). The rotary shaft (16) has a hollow structure with a thin wall, and is supplied with a cooling gas to flow inside and outside the rotary shaft. The support unit (19) has a cooling passage (32) surrounding an upper portion of the rotary shaft (16), and is supplied with a coolant to flow through the cooling passage.



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