

ABSTRACT

STATE DETERMINATION DEVICE OF LIQUID PUMPING APPARATUS, AND LIQUID PUMPING APPARATUS

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Disclosed is a state determination device 70 for a liquid pumping apparatus 1 including: a casing 10 that forms a reservoir space 13 for storing liquid flowed thereto; a feed valve 20 that introduces working gas into the reservoir space 13; an exhaust valve 30 that releases the working gas from the reservoir space 13; and a
10 valve operating mechanism 40 having a float 41 arranged in the reservoir space 13, and performing a pumping stroke in which the liquid is pumped from the reservoir space 13 under a pressure of the working gas by opening the feed valve 20 and closing the exhaust valve 30 when the float 41 moves up to a predetermined high level, and an inflow stroke in which the liquid flows into the reservoir space 13 and
15 the working gas is released from the reservoir space 13 by closing the feed valve 20 and opening the exhaust valve 30 when the float 41 moves down to a predetermined low level. The state determination device 70 includes a pressure sensor 71 that detects a pressure of the reservoir space 13, and a determination unit 72 that determines whether the liquid pumping apparatus 1 is in an operating state of
20 performing the pumping stroke or the inflow stroke based on the pressure detected by the pressure sensor 71.

FIG. 1