

AMMONIA AND HYDROGEN PRODUCTION SYSTEM

Abstract

An ammonia and hydrogen production system (1) comprises: a boiler (20) that generates steam by heat of a combustion furnace (11); an exhaust gas treatment device (13) that treats exhaust gas from the combustion furnace (11) and discharges wastewater (F1) from exhaust gas treatment; a separation device (10) that separates boiler blowdown water (F2) of the boiler (20) into ammonia-containing water (F5) and treated water (F6); a water electrolysis device (32) that electrolyzes the treated water (F6) to produce hydrogen (F7); a hydrogen storage tank (33); an ammonia stripping device (44) that strips ammonia from the wastewater (F1) from exhaust gas treatment; and an ammonia solution storage tank (51) that stores ammonia solution (F8) including stripped ammonia. In the ammonia stripping device (44), the ammonia-containing water (F5) is injected at a first position (P1) and the wastewater (F1) from exhaust gas treatment is injected at a second position (P2) different from the first position (P1).

(Fig. 1)