

ABSTRACT

An object of the present invention is to provide a hydrogen combustion furnace capable of reducing NO_x emissions. The present invention provides a hydrogen combustion furnace (1) including: a combustion furnace main body (2) having a burner (3); a first path (L1) which supplies hydrogen into the burner; a second path (L2) which supplies a combustion-supporting gas containing oxygen into the burner; a third path (L3) which leads out an exhaust gas from the combustion furnace main body; a first control device (7) which adjusts an amount of hydrogen supplied; a second control device (8) which adjusts an amount of the combustion-supporting gas supplied; a gas analyzer (5) which analyzes components in the exhaust gas; and a control device (6), wherein the control device (6) controls the first control device (7) and the second control device (8) based on an analysis value obtained by the gas analyzer (5) so that the hydrogen in the combustion furnace main body (2) is incompletely combusted.