

Abstract

EVAPORATOR

An evaporator (10) comprises: a pressure container (11) that has a coolant outlet tube (16) that discharges evaporated coolant; a flooded-type heat transfer tube group (14) that has a plurality of first heat transfer tubes (14a) that are immersed in liquid phase coolant stored in a storage part (11c) provided at the lower part of the pressure container (11), and inside which water to be cooled flows; a liquid film-type heat transfer tube group (15) that has a plurality of second heat transfer tubes (15a) that are provided higher than the liquid surface (S) of the liquid phase coolant stored in the lower part of the pressure container (11), and inside which water to be cooled flows; a coolant tray (13) that supplies liquid phase coolant from above to the liquid film-type heat transfer tube group (15); and a gas-liquid separation flow path (20) that guides the coolant which has evaporated in the liquid film-type heat transfer tube group (15) to the coolant outlet tube (16). The gas-liquid separation flow path (20) has: an ascent flow path (23) in which the coolant flows upward from below; a descent flow path (24) in which the coolant flows downward from above; and a connection flow path (25) which connects

the ascent flow path (23) and the descent flow path (24)
and causes the coolant to turn back.

Fig.1